T.R.Y. – Tarot Reading Yourself

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I hereby declare that this dissertation is all my own work,
except as indicated in the text:

Signature:____

Date: ___ / ___ / ______

Abstract

This document is the dissertation for my final year project 2005-2006 in Computer Science of the Information Technology Faculty of the University of Akureyri. My project is called "T.R.Y. – Tarot Reading Yourself" where I created a tarot reading system using the programming language CLIPS. The system was created for individuals who wish to seek spiritual guidance from the tarot cards directly, i.e. so they would not require another person to do it for them.

This dissertation defines the problem to be solved, discusses my approach to the problem, provides detailed information about how I designed and implemented the system, explains how the final system works, tells of further work that can be done on the system and my conclusion regarding the project as a whole.

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Introduction

This section is a brief introduction to what my final year project is about.

The main goal of my project was to create a tarot reading system. Such a system would of course require certain basic functionalities to be able to say it works. Once they had been accomplished there were a number of other things that I wanted my system to do. This was my criterion for dividing into primary and secondary goals.

Furthermore, I had to look at related work to compare my ideas of what a tarot reading system should do and perhaps find shortcomings that I could implement in my system.

I also discuss further any work that was not completed during the course of this project and how I would go about implementing most of it.

Before I proceed to elaborate on my goals and how I implemented the system, I think it is appropriate to look at the problem space by providing some background knowledge on tarot.

Background

This section provides some background knowledge about the tarot deck, tarot layouts, interpretation of the cards, and tarot in general.

A tarot reading is an interpretation of tarot cards in specific positions when they are layed out on a table in a particular order.

There are 78 cards in a tarot deck. The cards are divided into two groups called the minor and major arcana. There are 56 cards in the minor arcana, 21 numbered cards and the Fool card in the major arcana, where the Fool has no number or is labeled as zero. The minor arcana are made up of four suits; Wands, Swords, Cups and Pentacles. Each suit has for royal cards; the King, Queen, Knight and Page; and numbered cards from ten down to the ace. Each card has a basic meaning and some readers attach another meaning to a card if it is reversed (i.e. when it is seen from the reader it is upside-down), while other readers use the same meaning for both.

There are many types of tarot decks, each with its own theme and therefore various meanings for cards with the same title across decks. There are also many layouts that can be used for a tarot reading. Each layout has a specified number of card positions, although always a minimum of one card (and technically a maximum of 78). For every reading the meaning of the cards can be influenced by surrounding cards, and each layout can have a different meaning for adjoining cards.

A good tarot reading takes the whole layout into account and so various kinds of combinations come into play, e.g. two or more adjoining cards, more than one card with the same face value, multiple major arcana cards, multiple royal cards of the same suit, or when one suit is more prominent than others. I have an example of these in Appendix B.

The problem space

This section attempts to show the size of the problem space, i.e. the possible size of the knowledge base and hence the scope of this project, then it shows the problem space I have chosen to work with during this project.

With the assistance of an associate of mine, Helgi Hrafn Halldórsson, we calculated the maximum number of facts in the knowledge base necessary to represent the combination rules for adjoining cards:

Let:

i) D be the number of decks,
ii) C be the number of cards in a deck,
iii) R be the number of facings a card can have (i.e. whether reversed meanings are used or not),
iv) L be the number of layouts,
v) N be the number of neighbors (i.e. combination meanings), and
vi) S be the size of the knowledge base that we are calculating.

thus:

$$S_1 = L \cdot \sum_{i=1}^{i=D} \left(R_i^{N_i} \cdot N_i \cdot (C_i - 1) \right)$$

We will assume that all tarot decks are comprised of 78 cards, that the cards can only have two facings, and for the purpose of this calculation that combinations of cards are made up of only two adjoining cards.

I found one source that provides information about 52 layouts (Jones, 1996), and discovered that U.S.Games Systems, Inc. sell 122 tarot decks on their website, therefore:

D = 122, C = 78, R = 2, L = 52, N = 2

Therefore the maximum possible number of facts for two adjoining cards is:

$$S_1 = 52 \cdot \sum_{1}^{122} \left(2^2 \cdot 2 \cdot (78 - 1)\right) = 3,907,904$$

Then I calculated the maximum number of facts in the knowledge base necessary to represent the remaining combination rules:

Let:

vii) F be the number of cards in a deck with face values,
viii) U be the number of suits in a deck,
ix) O be the number of royals in a deck,
x) M be the number of major arcana cards in a deck,
xi) A be the number of suits per rule
xii) B be the number of royals per rule
xiii) C be the number of majors per rule

thus:

$$S_2 = L \cdot \sum_{i=1}^{i=D} \left(\left(\frac{F \cdot (U-1)}{U} \right) + \left(\frac{U}{A} \right) + \left(\frac{O}{B} \right) + \left(\frac{M}{C} \right) \right)$$

From the basic information about tarot decks we know that

$$F = 56, \quad U = 4, \quad O = 16, \quad M = 22$$

and will assume that each suit has one rule, that each set of four royals from each suit has one rule, and finally that all of the major arcana cards have one overall rule:

$$A = 1, \quad B = 4, \quad C = 22$$

so the maximum possible number of facts for the remaining combination rules is:

$$S_2 = 52 \cdot \sum_{1}^{122} \left(\left(\frac{56 \cdot (4-1)}{4} \right) + \left(\frac{4}{1} \right) + \left(\frac{16}{4} \right) + \left(\frac{22}{22} \right) \right) = 323{,}544$$

To represent the basic card meanings there must be 78 facts – or could be 156 if reversed meanings are used.

$$S_{3\min} = 78 \qquad \text{or} \qquad S_{3\max} = 156$$

with the following total of the maximum number of rules:

$$S_1 + S_2 + S_{3\max} = 4{,}231{,}604$$

Obviously I cannot fully address this problem space within the scope of this final year project, so I have narrowed it down to one basic tarot deck, one basic layout and only basic card meanings (not meanings for card combinations) as a minimum.

If I were to add the combination meanings for two adjoining cards to my system, then there could be up to 154 additional facts:

$$S_4 = 1 \cdot \sum_{1}^{1} \left(1^2 \cdot 2 \cdot (78 - 1)\right) = 154$$

Then if I were also to consider rules for more than one card with the same face value, multiple major arcana cards, multiple royal cards of the same suit, or when one suit is more prominent than others in the problem space I have delimited, that would mean a maximum of another 51 facts:

$$S_5 = 1 \cdot \sum_{1}^{1} \left(\left(\frac{56 \cdot (4-1)}{4} \right) + \left(\frac{4}{1} \right) + \left(\frac{16}{4} \right) + \left(\frac{22}{22} \right) \right) = 51$$

And so just for this limited problem space of one tarot deck and one layout, using reversed meanings, there could be up to 361 facts:

$$S_{3\max} + S_4 + S_5 = 361$$

The goals

This section provides the goals of this project.

Now that the reader has some knowledge about tarot readings and the problem space I have chosen to address, I will now proceed to show the classification of my goals as primary or secondary objectives.

1. Primary goals:

1.1. create a basic Celtic Cross tarot reading layout,

1.2. let the user shuffle the deck,

1.3. deal the cards to positions in the layout one at a time, and

1.4. show the basic meaning of each card as it is dealt.

2. Secondary goals:

2.1. cut the deck – which in my opinion is a natural thing to do when reading with physical tarot cards,

2.2. allow reversed cards, i.e. allow the cards in the deck to not all face in the same direction and if the card is reversed it may have a different meaning than when it is right-side up,

2.3. identify and display meanings for cards that appear next to each other in the layout,

2.4. allow the user to create their own customized layout – enter number of cards, where to position them on the graphical user interface (GUI), specify the order to lay out the cards, provide their own text for basic or combination meanings,

2.5. use fancy graphics to achieve these goals – e.g. back and front images of the cards, hands and cards moving as the deck is shuffled, the cards fanned out for the user to select anywhere from the deck to lay out, also hands and cards moving as the cards are dealt.

Related work

This section briefly discusses what I discovered when researching similar products and my assessment of them compared to mine.

As I looked into related work, I discovered that this idea was far from being as original as I had first thought, and found that there were numerous programs that were available for purchase. However, I was not prepared to do that, so I extended my search to the Internet which revealed a number of websites that also offer this type of service, i.e. tarot reading. I looked at five of them (see Appendix C), whereof three used the Celtic Cross layout and the other two used very simple layouts. All of them used images, most were of the U.S.Games Systems' deck but I could only find information that permission had been granted to use those images on only one of those websites, namely Tarot.com, which has an exclusive agreement with the publisher regarding the images.

Some of these websites had advanced graphics; e.g. shuffle by moving the mouse cursor over the back image of the deck, a fanned deck to choose cards from (where the cards are spread out in a straight line or held in the shape of a fan), some of these showed the card sliding up out of the fanned line of cards and some showed a gap in the line after the card had been selected for the layout, one had a Flash interactive movie showing the card being flipped over before it was moved to the relevant position in the layout.

Some of these websites had selectable options such as allowing the user to select a deck, select a layout, whether to use reversed card meanings or not, and whether to use a significator card or not.

Looking at these websites overall for shortcomings, I didn't see the option to cut the deck, let alone rotate the deck after cutting and none of them offered the user to create their own layout.

To address the above issues in comparison to my system: I did not feel comfortable using copyrighted images without permission and therefore I abandoned that idea; the fancy graphics that I wanted to implement in my system were in part dependent upon using those images but also required much longer time than I had available to implement this satisfactorily; and finally, most of the selectable options mentioned above I had already considered. I decided against allowing the user to select a deck because it increased the size of the project beyond what I considered feasible. The option for the user to select from different layouts is allowed, even though the selection list is very short. The use of reversed meanings is not a selectable option in my system, but it is implemented. The significator card in the Celtic Cross layout is not required, and so I left that out of my system in this first version.

Design

This section describes the design phase of creating my system in detail, with emphasis on why certain decisions were made in the design process.

I took a full week to create and refine my first design, which was a form of pseudo-code, probably one step above actual pseudo (see Appendix D). I though of my objectives in terms of what the user would be doing to achieve these objectives. First layer was "start program" which provided options, these options were my second layer "start new reading" and "create new layout", these also provided options which were then the third layer, and so on. I believed that I had put a lot of though into this design; I had taken it several times (with minor modifications each time) to my supervisor, and each time she asked me to be sure that I had "everything in there" before I started coding – and I was sure that I did have everything covered.

During this week I also collected information about tarot cards from a source that was published in Icelandic (McCormack), which I intended to translate to English and base my own interpretations of the cards on. Since there are no language requirements in this final year project, I have appended this work in Appendix E to show the state of this work despite the fact that I know the truth of it may possibly not be verified for marking purposes.

Even though I am fully capable of translating between Icelandic and English, it can take me an inordinate amount of time because literal translations is not what I am looking for, but demand of myself that the full range of the word is preserved between languages. I am aware that this is an irrational demand but I am unable to accept less quality of work from myself. Eventually, I accepted that time had slipped away from me before I could complete my translations and so I inserted the text that accompanied the tarot deck that I had purchased for this project into my card-facts (U.S.Games Systems, Inc, 2004).

I then extracted the necessary information to create the combinations rules from my documentation in Appendix E through several iterations, but the final iteration shows 115 combintation rules that can be seen in Appendix F. Half of the text was still in Icelandic, which I intended to translate it later. Also, the first tentative structure that I attempted to write up can be found in Appendix G.

My supervisor's question regarding whether I was sure that I had "everything covered" kept nagging at the back of my mind, so I rewrote my first design over the next week, basically just reorganized it and discovered that there were a number of things that I had not written down in that first document. So my 2nd, 3rd and 4th design documents were effectively writing the same things up over and over again to see if I could spot anything else that was missing. (See Appendices H, I & J)

In my third week of design I drew paper prototypes of the GUI's (see Appendix K) before writing up the 5th and 6th design documents. (see Appendices L & M)

The paper prototypes grouped together my functionality from the previous design documents according to steps in the process of doing a tarot reading. Each step was represented as one GUI frame, and each frame had subgroups indicating user interactions that had to be implemented, and those subgroups had subgroups etc.

The resulting 6th design document was essentially a list of every detail that I could think of that had to be implemented, which I then used to monitor my progress and cross things off the list once I had accomplished them.

Implementation

This section describes the implementation of my system, why I chose CLIPS, changes I had to make to the design as a result of the implementation and problems I encountered while coding.

There are two main reasons why I chose to write my program in CLIPS:

1. This project involves mostly pattern matching and CLIPS handles that extremely well.
2. I am more comfortable programming in CLIPS than in any other programming language.

CLIPS stands for C Language Integrated Production System and is an expert system tool developed by NASA, the National Aeronautics and Space Administration in the United States of America.

In order to understand better some of what I talk about in this dissertation, I will provide a little basic knowledge about CLIPS:

- "CLIPS provides three basic elements for writing programs: primitive data types, functions for manipulating data, and constructs for adding to a knowledge base." (CLIPS Reference Manual, Vol.I, 2005, p.6) Among the constructs are deffacts, defglobal, defrule and deffunction.

- So-called facts (deffacts) and global variables (defglobal) represent information in CLIPS.

- The defrule construct, simply called a rule, is one way CLIPS represents knowledge. "A rule is a collection of conditions and the actions to be taken if the conditions are met. […] Rules execute (or fire) based on the existence or non-existence of facts" (CLIPS Reference Manual, Vol.I, 2005, p.25) which are the conditions of the rules.

- The deffunction construct allows users to define new functions directly in the CLIPS environment using CLIPS syntax.

The editor I used to write the actual code was VIM, or Vi IMproved, version 6.3, which is an open source editor created by Bram Moolenaar et al., that conveniently color-codes the text as you type according to whether it is a keyword, variable or function name, string or comment.

That covers the functionality, but on the other hand CLIPS does not have the capability to create a GUI, which was crucial for this project, and that had me worried for a while.

My supervisor suggested that if CLIPS could generate Hyper Text Markup Language (HTML) or eXtensible Markup Language (XML) then I could display directly in a web browser, so while I worked on the first design document I also conducted a few tests on the side where CLIPS wrote to an .htm file. This was successful in itself (see Appendix N), but I still felt insecure about working out the interactions between the user and the program, so I continued to search for some tool that I could use to interface CLIPS with a GUI and found wxCLIPS (downloaded from here http://www.anthemion.co.uk/wxclips/).

According to the developer, Julian Smart of the Artificial Intelligence Applications Institute of the University of Edinburgh, wxCLIPS is "a set of CLIPS functions to access a large portion of wxWindows functionality" and where wxWindows is "a C++ library for multi-platform development" that was also developed by Julian Smart. After briefly experimenting with wxCLIPS (see screenshot in Appendix O) I felt confident that I could complete my project with this tool.

I also came across JESS in my search for appropriate tools, which is a rule engine for the Java platform, and that could also have been used for this project. But since it is centered on the Java programming language and my programming ability in Java is not as strong as in CLIPS, I decided not to use JESS.

Through the iterative design process and first implementations of the program I had to make certain decisions regarding the GUI and the functionality.

I began with various frame sizes for the first three steps of the program, each frame size nicely fitting around the content of that step. The fourth step, the card layout itself, was much larger than the first three and it would've been easier to display if I had chosen a larger frame size, but I wanted to be sure that the program would not have problems if it were run on a computer with a monitor using the 800x600 screen resolution. This also affected where to put the text area on the GUI to display the card descriptions.

When doing the Celtic Cross layout with a physical deck, the second card is placed horizontally on top or the first card, forming a cross. This posed a problem since I could not place a text-area sideways on top of another test-area. I considered using one position to display the two cards, but because the title above the position would have to change – which was not feasible – and because the user might want to see the first card after it had been replaced, I decided against this. I tried drawing the layout with cards 1 and 2 in north-south positions so to speak, pushing cards 3 and 4 farther north and south, but that stretched the frame past the limitations I had set myself, but when I put them in west-east positions, that solved the problem. (see the paper prototypes in Appendix K)

In my paper prototypes of the interface, I had planned to have the layout, shuffle, cut and deal functionality all in one frame. However, I realized that I could not allow the user to manipulate the deck once the reading began – i.e. after the first card had been dealt – because this is not allowed with a physical deck. To prevent this, I put the shuffle and cut functionality on a separate GUI frame.

Also in my original design, I thought I would clear the text-area every time a new card was dealt, but then I looked at it from a user's point of view and realized that the user might want to go back to see the accompanying text for a previous card. So the easiest way to solve that was to keep adding to the text-area, that way the user could see what all of the cards meant while comparing them to their position title at the same time.

After spending close to 4 weeks on the design phase, the coding phase only took 2 weeks and would've taken less time if not for a few snags along the way. Towards the end of the project, when things were happening more rapidly, I kept an informal log that I have included in Appendix P.

The largest snag I ran into was that I wanted a rule to fire when matching the top card from the deck to one of the 78 card facts. I believed that elements of a multifield could only be converted to strings and so designed the number field of the card facts to also hold strings, in order to be able to compare these in this rule. I spent two full frustrating days trying to figure this out, but the rule just would not fire. Finally, I found an active CLIPS forum and posted my problem, and when I read the answer it was ridiculously simple, something I already knew but had overlooked – namely that binding values in defglobals do not cause rules to fire but the assertion of facts do.

Some implementations required a few experimentations before they were fully functional, and mainly it was a question of getting a handle on the appropriate syntax, but for the most part the coding went smoothly. The code in Appendix A is the final version that I wrote.

There are a few things I would say is wrong with my system:

Some things I just didn't get round to fixing – because they weren't highly prioritized on my list of things to fix. Such as the size of the input area in the test session frame and an option for the user to indicate whether the card they have specified should be reversed or not. These things were not highly prioritized because the purpose of the test frame was to compare the output of my system to another, e.g. one of the systems I investigated on the web, once mine could display combination meanings as well as the basic meanings. Since my system was not ready to do that, the test frame held less importance.

There were things I tried to fix, but couldn't. I wanted to change the size of the text displayed in various locations in my system (the font size), but after I had meticulously searched the wxCLIPS documentation I determined that the font size was fixed for each type of area, and so I had to accept it the way it was.

Then there were things that I was unable to fix. I found a so-called bug in the system, i.e. an occurrence that I have been unable to identify the cause of. Occasionally when dealing cards to the layout (on frame three) the same card will appear twice in a position, then skip over one position and continue after the empty position. This seems to be most likely to happen if the deal button is pressed rapidly, but since this only happened occasionally I did not prioritize it highly on the fix list.

The system

This section provides information about the final system, its appearance and how it works. For further details, see the user manual in Appendix Q.

The final tarot reading system that I have created is comprised of several GUI frames, each acting as a step in the process of performing a tarot reading.

The first frame displays three options with a selectable dot in front of each of them where only one can be selected at a time (these are called radio buttons) so that the user can select which action they wish to perform. The options are to begin a tarot reading, create a new layout or use the test session, which is intended to enter specific cards into specific positions in order to compare the results of this system to other tarot reading programs. The option to create a new layout was one of my secondary goals and has not been implemented at this time.

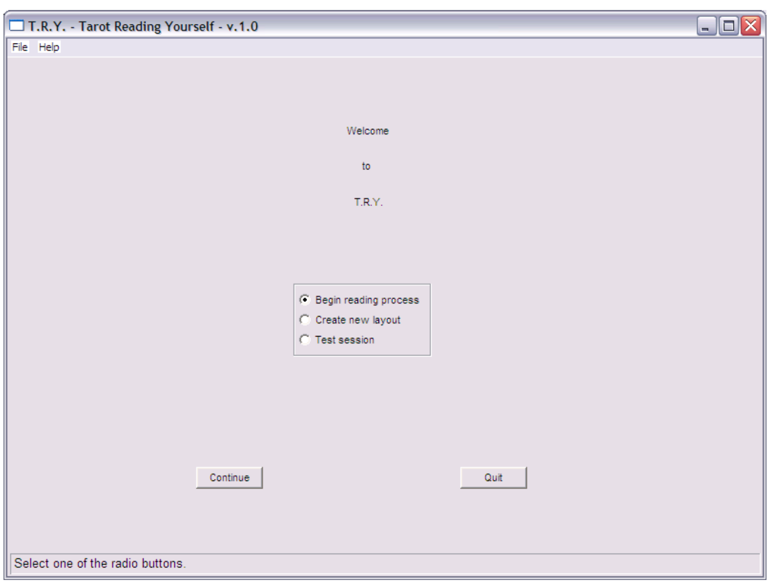


Figure 1: Screenshot of frame one

The first frame also has buttons to continue or quit the program, and the menu bar provides the simple basics, i.e. to quit the program and also displays a message box

providing information about the program. The quit action, whether selected by pressing a quit button or from the menu bar, will display a thank you message before closing all of the program's frames.

The radio buttons show that the option to begin a tarot reading is selected, but I had to pre-select that option because otherwise it was not until one of the options had been selected by mouse-click that it registered with the program, and it just seemed redundant that the user would have to click on a radio button that was visually selected. When the continue button is pressed then the frame only becomes invisible, and the next frame is created.

After the selection has been made on the first frame to begin a tarot reading, and the continue button pressed, the second frame is created. It has the same basic functionality as the first frame, i.e. the menu bar is the same and there are quit and continue buttons. The difference here is that there is a list of layouts to select from. In accordance with my primary goals, only the Celtic Cross layout can be selected in the current version of my program, but I have planned the GUI such that more layouts will be available to choose from in the future.

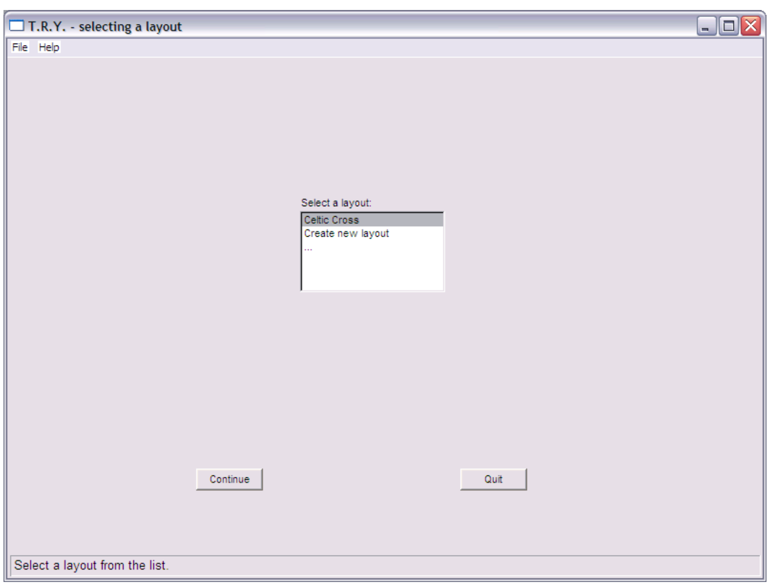


Figure 2: Screenshot of frame two

The option "create a new layout" is redundant and will be removed from here in future versions, but is merely shown in this list now so that the text area does not appear to be so empty. Here I have also pre-selected the Celtic Cross layout for the same reason as in the first frame, i.e. to minimize the number of mouse clicks needed to get to the core of the program.

Next, with the click of the continue button, frame two becomes invisible and frame three is created. This frame also has the same basic functionality as the first two frames, but its main function is to create the deck, so to speak. The top half of the frame displays some text bidding the user basically to open themselves up to higher powers and to concentrate on their query while they shuffle and cut the deck. This frame differs from the first two in that this time the user is required to press the shuffle button at least once before they are allowed to continue to the reading and the status bar at the bottom of the frame shows how many times the user has pressed the shuffle button. This is so that each time the user comes to this point in the program, a deck is created especially for that user.

Although I do strongly believe that higher powers can influence or guide us, my program creates the deck when the shuffle button is pressed by calling the built-in random function repeatedly so that a set of 78 unique numbers, between 1 and 78 in random order, is created. If the user presses the shuffle button again, then the last set is discarded and a new set is created in the same manner as the first time.

Furthermore, I have implemented another one of my secondary goals by allowing for reversed meanings. The allowance of reversed meanings depended upon the card fact structure having a field for the text describing the card when it is reversed, and another field in the structure that indicated which direction the card is facing.

I implemented the reversed functionality by having the first function that creates the deck call a second function that creates 78 facts to identify the card numbers that should be turned (the cards are all originally right-side up). The numbers are not necessarily unique because a single card may change directions more than once, going from right-side up to reversed to right-side up and so on, as many times as the number is in the set. The size of

the set is 78 so that in case the numbers, which range from 1 to 78 in order to match to the cards, just do happen to be unique. Then immediately after this second function has finished, the first function finishes by executing a run on the CLIPS fact base, which causes the 78 facts to fire one rule 78 times. This rule changes the information in the field that indicates which direction the card is facing.

I did not find an option to cut the deck in the online programs that I had for comparison, so this seems to be a new feature in electronic tarot reading systems. This feature was the first of my secondary goals that I chose to implement because, in my mind, it was one of the second most basic actions that is done when performing a tarot reading with a physical deck of cards. I chose to implement this with a slider because it resembles the movement of the user's hand over the fanned deck of cards.

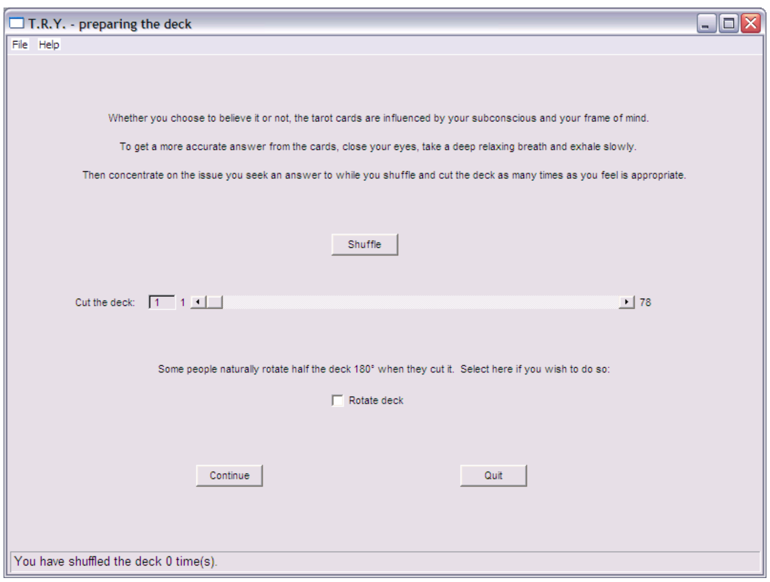


Figure 3: Screenshot of frame three

The functionality of cutting the deck is simple really, the program does not perform the cut until the continue button is clicked and then the position of the slider at that instant is used to identify the new top of the stack effectively. This is done by creating a new set of numbers, i.e. a new deck, where the first number of the new deck begins at the position specified by the slider in the old deck throught to the end of the old deck and then the first

number of the old deck follows thereafter and the last number of the new deck is the card that was in the next position before where the slider pointed.

An example might better explain how the program cuts the deck:

> Say the old deck contains ten numbers in order:
> { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 }
> and the slider points at position 4, then the new deck will look like this:
> { 4, 5, 6, 7, 8, 9, 10, 1, 2, 3 }

As can be seen on the screenshot of frame three, the user is also offered the option to rotate the deck while cutting. This was not one of my original goals, primary or secondary, but was added almost as an afterthought. I wanted my system to provide functionality as close to the physical act of having a person read the tarot cards for the user, and it dawned on me that some people rotate half of the deck when they cut it before putting the halves back together. I realized that my system could easily provide that option since I had already identified the top and bottom halves of the deck where it should be cut, and this was also another feature that I had not seen in the comparison programs.

So I created another function similar to the one that cuts the deck, but this one asserts facts for all of the cards in the top half of the deck, identifying them as needing to be reversed, and the function finishes by executing the run function in the CLIPS environment, firing the reverse rule as many times as there are cards in the top half of the deck.

The fourth frame is created and the third frame rendered invisible once the continue button has been pressed on frame three. This is the main frame of the program. It shows the Celtic Cross layout in the form of small text areas that represent "empty cards". The card positions were semi-hardcoded into the program such that I created variables to represent card height and width, horizontal and vertical spaces between the cards based on whether they are to be used around the cards in the cross section or staff section (the column of cards on the right are called the staff), and horizontal and vertical outer border thickness. Then I used these definitions to specify the (x,y) position on the frame to place each "empty card".

The fourth frame has an additional button to the basic continue and quit buttons, which is to deal one card to the next empty card position. Because I chose to honor the copyrighted ownership of the card images, then each card is represented by its name instead of its image. So when a card is dealt, its name appears in the relevant card position. A counter keeps track of the next position by incrementing its count each time the deal button is pressed. The correct card name is found by firing a rule that matches one of the cards from the knowledge base to the first number from the deck, then removes that number from the deck so that it will not match again. This same rule produces the description that is displayed in the text-area on the right side of the frame at the same time as the card name, as well as information regarding whether the card is reversed or not and then prints the text "reversed" after the card name and the card description will also be different from the basic one.

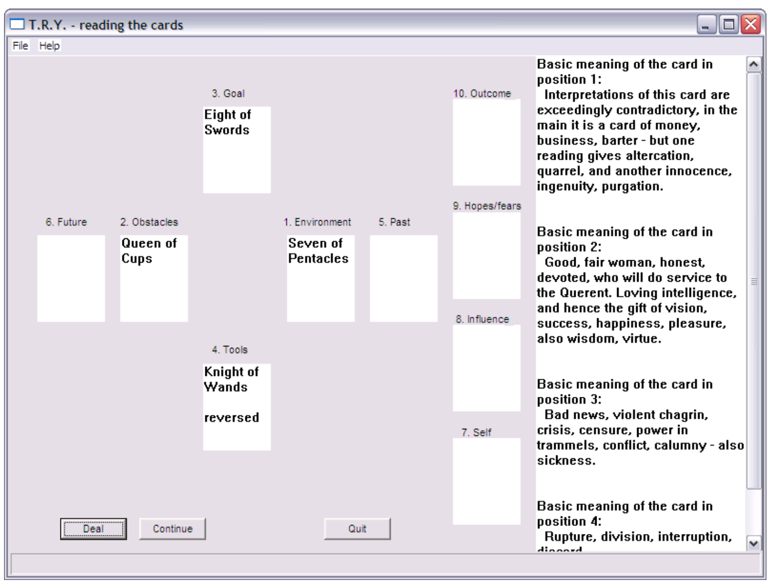


Figure 4: Screenshot of frame four

The fifth frame, which is the test session, is created when the relevant selection has been made on the first frame and the continue button pressed. I will confess that, regrettably, the code for the fifth frame is a duplication of frame four with slight additions. I was unabe to find a way to create a GUI frame that looked one way if a certain condition is fulfilled and another way if another condition is fulfilled, and due to time constraints I

resigned myself to duplicating the code since it worked and planned to attempt to solve this later but in the end I didn't get the chance to do that.

So the fifth frame is identical to the fourth frame except the deal button is now called submit and there is an input field to enter the number of the card that is to be placed in the next empty card position. Other than that, the functionality is the same.

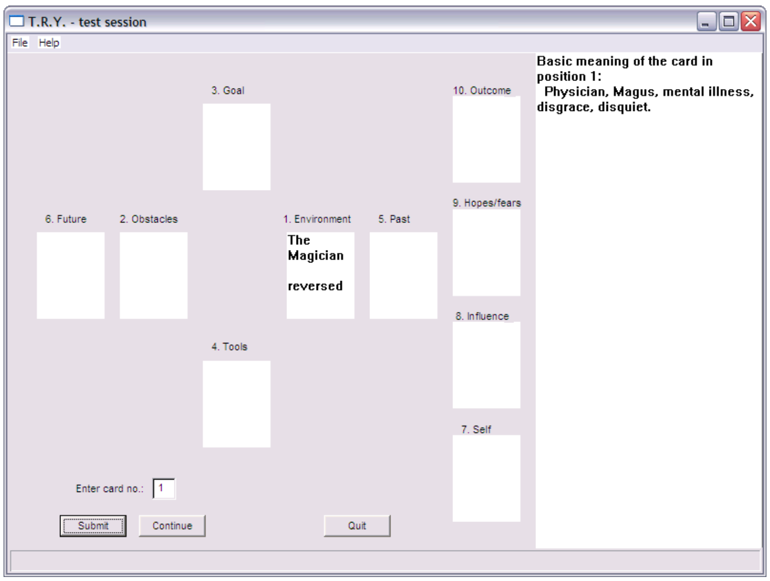


Figure 5: Screenshot of frame five

There was supposed to be a sixth frame that displayed the combination meanings, but after rethinking that problem I came to the conclusion that the user would want to see the cards still layed out, and especially the position title, when reading the combination meanings, and that I would essentially have to reproduce everything that was on frame four onto this frame six. So instead I implemented a counter that indicates when the layout has been filled such that, until it has been filled the continue button will not allow the user to proceed, and once the layout has been filled then the continue button only clears the text area on the right side of the frame in order to display the combination meanings.

However, this is one of my secondary goals that I was unable to completely fulfill. At this time only a dummy sentence is displayed in the side text area, but in order to complete this step the largest hindrance is to take the time to type in the combination text, as I have

already created the structure for the combination facts and one rule that creates facts identifying which cards are neighbors, and another half-finished rule that will get the combination text to display, but this rule cannot be tested until the text has been typed in.

Other functionality of the secondary goals and how I intended to address them is discussed in the chapter "Further work".

Testing

This section provides a brief description of how my system was tested.

The testing stage was effectively me checking whether the program worked as I intended. Because the testing was done iteratively as the program grew, in small steps of functionality, only moving on to the next version only when the current version was working properly (i.e. all functionality tests were satisfactory) or a totally new approach was needed to solve the current problem, I did not see the need for outside testing. The reason for the iterative testing was to be able to fall back on a working version similar to the current version I was working on, so that I would lose as little work as possible if I ran into problems.

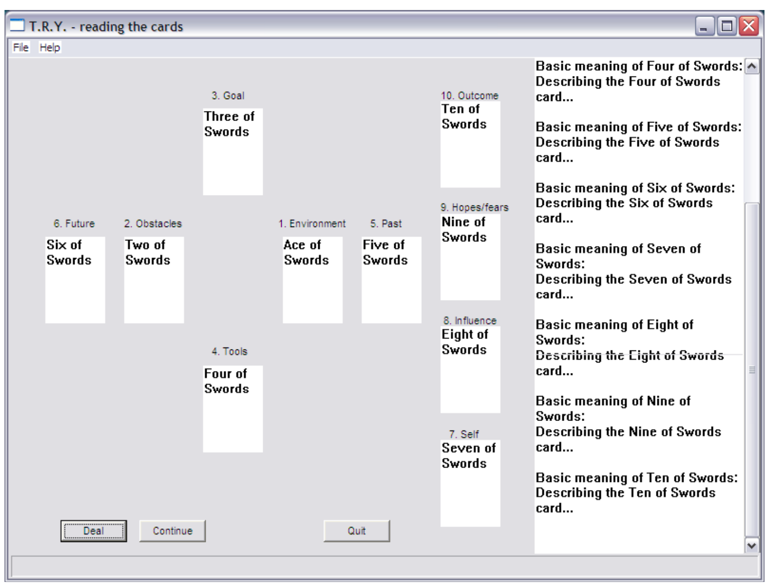


Figure 6: Screenshot taken during testing

This screenshot shows that the text-area on the side is correctly displaying the accompanying text with each card, however it was not displaying the cards from the top of the deck as it was supposed to because one of my rules was not firing. This is the same problem I mentioned earlier about multifields and strings, but turned out to be a matter of needing to assert facts instead of using defglobals.

Further work

This section discusses further work on the system and some ideas on how to implement most of the remaining secondary goals.

As far as I can see, the program will need very little modification to allow the user to place more cards in the Celtic Cross layout – or any other layout for that matter – such that a maximum of three positions can contain a maximum of three cards. This is something that some tarot readers would do to get more detailed information about certain aspects of the reading. When I put this in perspective with the full layout and how the extra cards would then affect the combinations, I figure that can be solved by displaying the combinations once the layout is filled and after that offer the option to add extra cards.

Also, the meaning of a card can be influenced by its surrounding cards and in order to incorporate that into the program, basically all that is needed, is for the combination rules to be written up as facts in order to display the appropriate combination meanings (if they exist) because the program already identifies which cards are next to each other for each reading.

Then for other types of combination rules, such as for more than one card with the same face value, multiple major arcana cards, multiple royal cards of the same suit, or when one suit is more prominent than others, I foresee implementing counters through rules. For example, a rule that gets two card facts of the same suit and increments a suit counter, then, if the counter fulfills the condition for that combination rule, it is displayed.

The significator card could fairly easily be added in later versions: add another frame in between creating the deck and displaying the layout that provides options to select the appropriate significator card. There are several ways to select a significator card, so the main thing would be to decide on the method and also how to present this option to the user, e.g. display what each significator card means if only using the royals, or display traits that represent the user and have the program select the best card. Then that card

must be removed from the deck before moving on to the layout because there is only one card like it in the deck and therefore it should not appear in the reading also.

As I considered showing my program to friends and family, some of whom do not speak English, I realized that I would need to modify very little to have it work in Icelandic, or any other languaghe for that matter. If the card titles and descriptions are written up in Icelandic then I would change the card position titles to variables so that they would take the title in from a string to display instead of hard-coding them into the program, and finally, change a few button names.

And for user defined layouts the program would need to take information from the user regarding e.g. number of cards to use, the formation of the layout, the order in which to lay out the cards, whether to use default card meanings or enter the user's special meanings and the same for combinations. Then the program would have to use this information to position the text-areas that represent the card positions on the GUI frame, how to deal the cards to the layout and what text should appear in the description text-area.

Conclusion

This section gives a summary of my overall experience in working this project.

I have to say that – for the most part – I have enjoyed creating this program, and would like to continue polishing it for my own satisfaction, it could be my "knitting" so to speak – or "blue sky" prjoject as my supervisor put it.

Working on this final year project has been a great learning experience, but the biggest lesson I will take away from this is the importance of creating and refining a good design before embarking on the implementation journey, because this makes additions and/or modifications to the system a simple task.

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Appendix A – Code listing

```
;; ************************************************************************************
;;            Háskólinn á Akureyri - Upplýsingatæknideild
;;          University of Akureyri - Information Technology Faculty
;;
;;
;; Module:  LOK0183 + LOK0283
;;
;; Title    :  T.R.Y. - Tarot Reading Yourself
;;
;; Date     :  2005-2006
;;
;; Author  :  Martha Dís Brandt
;;
;; e-mail  :  ha030454@unak.is
;;
;;
;; Description:
;;
;; This program is a tarot reading system implemented in CLIPS with
;; wxCLIPS for graphical user interface functionality.
;;
;; The system was created for individuals who wish to seek spiritual
;; guidance from the tarot cards directly, i.e. so they would not require
;; another person to do it for them.
;;
;; ************************************************************************************


;;-------------------------------------------------------------------------------------------------------------------------
;; ----- THE FACTS ------

(deffacts  card-facts

            "The card facts contain...."

            (card    ID                  "1"
                     name                (format t "The %nMagician%n")
                     suit                0
                     num                 0
                     posn                0
                     major               T
                     describe-card       (format t "Skill, diplomacy, address, sickness, pain, loss, disaster, self-
confidence, will, the Querent himself (if male).%n")
                     reversed-text       (format t "Physician, Magus, mental illness, disgrace, disquiet.%n" )
                     reversed  1 )

            (card    ID                  "2"
                     name                (format t "The High%nPriest-%ness%n")
                     suit                0
                     num                 0
                     posn                0
                     major               T
                     describe-card       (format t "Secrets, mystery, the future as yet unrevealed, the woman
who interests the Querent (if male), the Querent (if female), silence, tenacity, wisdom, science.%n")
                     reversed-text       (format t "Passion, moral or physical ardor, conceit, surface
knowledge.%n" )
                     reversed  1 )

            (card    ID                  "3"
                     name                (format t "The Empress%n")
```

```
                suit            0
                num             0
                posn            0
                major           T
                describe-card   (format t "Fruitfulness, initiative, action, long days, clandestine, the
unknown, difficulty, doubt, ignorance.%n" )
                reversed-text   (format t "Light, truth, the unraveling of involved matters, public
rejoice, also vacillation.%n" )
                reversed  1 )

        (card   ID              "4"
                name            (format t "The Emporer%n")
                suit            0
                num             0
                posn            0
                major           T
                describe-card   (format t "Stability, power, aid, protection, a great person, conviction,
reason.%n" )
                reversed-text   (format t "Benevolence, compassion, credit, confusion to enemies,
obstruction, immaturity.%n" )
                reversed  1 )

        (card   ID              "5"
                name            (format t "The Hiero-%nphant%n")
                suit            0
                num             0
                posn            0
                major           T
                describe-card   (format t "Marriage, alliance, captivity, servitude, mercy and
goodness, inspiration, the man to whom the Querent has recourse.%n" )
                reversed-text   (format t "Society, good understanding, concord, over-kindness,
weakness.%n" )
                reversed  1 )

        (card   ID              "6"
                name            (format t "The Lovers%n")
                suit            0
                num             0
                posn            0
                major           T
                describe-card   (format t "Attraction, love, beauty, trials overcome.%n" )
                reversed-text   (format t "Failure, foolish designs.%n" )
                reversed  1  )

        (card   ID              "7"
                name            (format t "The Chariot%n")
                suit            0
                num             0
                posn            0
                major           T
                describe-card   (format t "Succor, providence, war, triumph, presumption, vengeance,
trouble.%n" )
                reversed-text   (format t "Riot, quarrel, dispute, litigation, defeat.%n" )
                reversed  1 )

        (card   ID              "11"
                name            (format t "Justice%n")
                suit            0
                num             0
                posn            0
                major           T
                describe-card   (format t "Equity, rightness, probity, executive.%n" )
                reversed-text   (format t "Law in all departments, bigotry, bias, excessive
severity.%n" )
```

```
                    reversed  1 )

            (card   ID              "9"
                    name            (format t "The Hermit%n")
                    suit            0
                    num             0
                    posn            0
                    major           T
                    describe-card   (format t "Prudence, also and especially treason, dissimulation,
corruption, roguery.%n" )
                    reversed-text   (format t "Concealment, disguise, policy, fear, unreasoned
caution.%n" )
                    reversed  1 )

            (card   ID              "10"
                    name            (format t "The %nWheel of %nFortune%n")
                    suit            0
                    num             0
                    posn            0
                    major           T
                    describe-card   (format t "Destiny, fortune, success, luck, felicity.%n" )
                    reversed-text   (format t "Increase, abundance, superfluity.%n" )
                    reversed  1 )

            (card   ID              "8"
                    name            (format t "Strength%n")
                    suit            0
                    num             0
                    posn            0
                    major           T
                    describe-card   (format t "Power, energy, action, courage, magnanimity.%n" )
                    reversed-text   (format t "Abuse of power, despotism, weakness, discord.%n" )
                    reversed  1 )

            (card   ID              "12"
                    name            (format t "The Hanged Man%n" )
                    suit            0
                    num             0
                    posn            0
                    major           T
                    describe-card   (format t "Wisdom, trials, circumspection, discernment, sacrifice,
intuition, divination, prophecy.%n" )
                    reversed-text   (format t "Selfishness, the crowd, body politic.%n" )
                    reversed  1 )

            (card   ID              "13"
                    name            (format t "Death%n" )
                    suit            0
                    num             0
                    posn            0
                    major           T
                    describe-card   (format t "End, mortality, destruction, corruption.%n" )
                    reversed-text   (format t "Inertia, sleep, lethargy, petrifaction, somnambulism.%n" )
                    reversed  1 )

            (card   ID              "14"
                    name            (format t "Temper-%nance%n" )
                    suit            0
                    num             0
                    posn            0
                    major           T
                    describe-card   (format t "Economy, moderation, frugality, management,
accommodation.%n" )
```

```
                    reversed-text     (format t "Things connected with churches, religions, sects, the
priesthood, also unfortunate combinations, disunion, competing interests.%n" )
                    reversed  1 )

            (card   ID                "15"
                    name              (format t "The Devil%n" )
                    suit              0
                    num               0
                    posn              0
                    major             T
                    describe-card     (format t "Ravage, violence, force, vehemence, extraordinary efforts,
fatality, that which is predestined but not for this reason evil.%n" )
                    reversed-text     (format t "Evil fatality, weakness, pettiness, blindness.%n" )
                    reversed  1 )

            (card   ID                "16"
                    name              (format t "The Tower%n" )
                    suit              0
                    num               0
                    posn              0
                    major             T
                    describe-card     (format t "Misery, distress, ruin, indigence, adversity, calamity,
disgrace, deception.%n" )
                    reversed-text     (format t "Misery, distress, ruin, indigence, adversity, calamity,
disgrace, deception in a lesser degree, also oppression, imprisonment, tyranny.%n" )
                    reversed  1 )

            (card   ID                "17"
                    name              (format t "The Star%n" )
                    suit              0
                    num               0
                    posn              0
                    major             T
                    describe-card     (format t "Loss, theft, privation, abandonment, some suggest hope and
bright prospects in the future.%n" )
                    reversed-text     (format t "Arrogance, impotence, haughtiness.%n" )
                    reversed  1 )

            (card   ID                "18"
                    name              (format t "The Moon%n" )
                    suit              0
                    num               0
                    posn              0
                    major             T
                    describe-card     (format t "Hidden enemies, danger, calumny, darkness, terror,
deception, error.%n" )
                    reversed-text     (format t "Instability, inconstancy, silence, lesser degrees of deception
and error.%n" )
                    reversed  1 )

            (card   ID                "19"
                    name              (format t "The Sun%n" )
                    suit              0
                    num               0
                    posn              0
                    major             T
                    describe-card     (format t "Material happiness, fortunate marriage, contentment.%n" )
                    reversed-text     (format t "Material happiness, fortunate marriage, contentment in a
lesser sense.%n" )
                    reversed  1 )

            (card   ID                "20"
                    name              (format t "Judge-%nment%n" )
                    suit              0
```

```
                        num             0
                        posn            0
                        major           T
                        describe-card   (format t "Change of position, renewal, outcome.%n" )
                        reversed-text   (format t "Weakness, pusillanimity, simplicity, also deliberation,
decision, sentence.%n" )
                        reversed  1 )

                (card   ID              "21"
                        name            (format t "The World%n" )
                        suit            0
                        num             0
                        posn            0
                        major           T
                        describe-card   (format t "Assured success, route, voyage, emigration, flight, change
of place.%n" )
                        reversed-text   (format t "Inertia, fixity, stagnation, permanence.%n" )
                        reversed  1 )

                (card   ID              "22"      ;; this was number "0" which produced problems....
                        name            (format t "The Fool%n" )
                        suit            0
                        num             0
                        posn            0
                        major           T
                        describe-card   (format t "Folly, mania, extravagance, intoxication, delirium, frenzy,
bewrayment.%n" )
                        reversed-text   (format t "Negligence, absence, distribution, carelessness, apathy,
nullity, vanity.%n" )
                        reversed  1 )


;; ............ Cups ..................................................................
                (card   ID              "23"
                        name            (format t "King of Cups%n" )
                        suit            "Cups"
                        num             0
                        posn            0
                        major           F
                        describe-card   (format t "Fair man, man of business, law or divinity, responsible,
disposed to oblige the Querent. Also equity, art and science, including those who profess science, law and art, creative
intelligence.%n" )
                        reversed-text   (format t "Dishonest, double-dealing man, roguery, exaction, injustice,
vice, scandal.%n" )
                        reversed  1 )

                (card   ID              "24"
                        name            (format t "Queen of Cups%n" )
                        suit            "Cups"
                        num             0
                        posn            0
                        major           F
                        describe-card   (format t "Good, fair woman, honest, devoted, who will do service to
the Querent. Loving intelligence, and hence the gift of vision, success, happiness, pleasure, also wisdom, virtue.%n" )
                        reversed-text   (format t "Good woman OR distinguished woman but one not to be
trusted, perverse woman, vice, dishonor, depravity.%n" )
                        reversed  1 )

                (card   ID              "25"
                        name            (format t "Knight of Cups%n" )
                        suit            "Cups"
                        num             0
                        posn            0
                        major           F
```

```
                    describe-card       (format t "Arrival, approach - sometimes that of a messenger,
advances, proposition, demeanor, invitation, incitement.%n" )
                    reversed-text       (format t "Trickery, artifice, subtlety, swindling, duplicity, fraud.%n" )
                    reversed  1 )

          (card     ID                  "26"
                    name                (format t "Page of Cups%n" )
                    suit                "Cups"
                    num                 0
                    posn                0
                    major               F
                    describe-card       (format t "Fair young man, one impelled to render service and with
whom the Querent will be connected, a studious youth, news, message, application, reflection, meditation, also these
things directed to business.%n" )
                    reversed-text       (format t "Taste, inclination, attachment, seduction, deception,
artifice.%n" )
                    reversed  1 )

          (card     ID                  "27"
                    name                (format t "Ten of Cups%n" )
                    suit                "Cups"
                    num                 10
                    posn                0
                    major               F
                    describe-card       (format t "Contentment, repose of the entire heart - the perfection of
that state, if with several picture cards, a person who is taking charge of the Querent's interests.  Also the town, village or
country inhabited by the Querent.%n" )
                    reversed-text       (format t "Repose of the false heart, indignation, violence.%n" )
                    reversed  1 )

          (card     ID                  "28"
                    name                (format t "Nine of Cups%n" )
                    suit                "Cups"
                    num                 9
                    posn                0
                    major               F
                    describe-card       (format t "Concord, contentment, physical 'bien-être', also victory,
success, advantage, satisfaction for the Querent or person for whom the consultation is made.%n" )
                    reversed-text       (format t "Truth, loyalty, liberty, also mistakes, imperfections etc.%n"
)
                    reversed  1 )

          (card     ID                  "29"
                    name                (format t "Eight of Cups%n" )
                    suit                "Cups"
                    num                 8
                    posn                0
                    major               F
                    describe-card       (format t "Giving joy, mildness, timidity, honor, modesty.%n" )
                    reversed-text       (format t "Great joy, happiness, feasting.%n" )
                    reversed  1 )

          (card     ID                  "30"
                    name                (format t "Seven of Cups%n" )
                    suit                "Cups"
                    num                 7
                    posn                0
                    major               F
                    describe-card       (format t "Fairy favors, images of reflection, imagination, sentiment,
things seen in the glass of contemplation, some attainment in these degrees but nothing permanent or substantial is
suggested.%n" )
                    reversed-text       (format t "Desire, will, determination, project.%n" )
                    reversed  1 )
```

```
(card   ID              "31"
        name            (format t "Six of Cups%n" )
        suit            "Cups"
        num             6
        posn            0
        major           F
        describe-card   (format t "A card of memories and of the past.  For example, reflecting on childhood, happiness, enjoymment, but coming rather from the past, things that have vanished.  Another interpretation portrays this card as giving new relations, new knowledge, new environment, and then the children are disporting in a newly-entered precinct.%n" )
        reversed-text   (format t "The future, renewal, that which will come to pass presently.%n" )
        reversed  1 )

(card   ID              "32"
        name            (format t "Five of Cups%n" )
        suit            "Cups"
        num             5
        posn            0
        major           F
        describe-card   (format t "A card of loss, but something remains over, three have been taken, but two are left. It is a card of inheritance, transmission, and patrimony, but not corresponding to expectation. With some it is a card of marriage, but not without bitterness or frustration.%n" )
        reversed-text   (format t "News, alliances, affinity, consanguinity, ancestry, return, false projects.%n" )
        reversed  1 )

(card   ID              "33"
        name            (format t "Four of Cups%n" )
        suit            "Cups"
        num             4
        posn            0
        major           F
        describe-card   (format t "Weariness, disgust, aversion, imaginary vexations - as if the wine of this world had caused satiety only. Another wine, as if a fairy gift, is now offered him, but he sees no consolation therein. This is also a card of blended pleasure.%n" )
        reversed-text   (format t "Novelty, presage, new instruction, new relations.%n" )
        reversed  1 )

(card   ID              "34"
        name            (format t "Three of Cups%n" )
        suit            "Cups"
        num             3
        posn            0
        major           F
        describe-card   (format t "The conclusion of any matter in plenty, perfection and merriment, happy issue, victory, fulfillment, solace, healing.%n" )
        reversed-text   (format t "Expedition, dispatch, achievement, end.%n" )
        reversed  1 )

(card   ID              "35"
        name            (format t "Two of Cups%n" )
        suit            "Cups"
        num             2
        posn            0
        major           F
        describe-card   (format t "(The basic description of the Two of Cups card was missing from my source)%n" )
        reversed-text   (format t "(The reversed description of the Two of Cups card was missing from my source)%n" )
        reversed  1 )

(card   ID              "36"
        name            (format t "Ace of Cups%n" )
```

```
                    suit            "Cups"
                    num             1
                    posn            0
                    major           F
                    describe-card   (format t "True heart, joy, content, abode, nourishment, abundance,
fertility, holy table, felicity hereof.%n" )
                    reversed-text   (format t "False heart, mutation, instability, revolution.%n" )
                    reversed  1 )


;; ............ Wands .................................................................
            (card   ID              "37"
                    name            (format t "King of Wands%n" )
                    suit            "Wands"
                    num             0
                    posn            0
                    major           F
                    describe-card   (format t "Dark man, friendly, countryman, generally married, honest
and conscientious.%n" )
                    reversed-text   (format t "Good, but severe; austere, yet tolerant.%n" )
                    reversed  1 )

            (card   ID              "38"
                    name            (format t "Queen of Wands%n" )
                    suit            "Wands"
                    num             0
                    posn            0
                    major           F
                    describe-card   (format t "A dark woman or a countrywoman, friendly, chaste, loving,
honorable. If the card beside her signifies a man, she is well disposed towards him; if a woman, she is interested in the
Querent. Also, love of money.%n" )
                    reversed-text   (format t "Good, economical, obliging, serviceable. Also signifies
opposition, jealousy, deceit, and infidelity.%n" )
                    reversed  1 )

            (card   ID              "39"
                    name            (format t "Knight of Wands%n" )
                    suit            "Wands"
                    num             0
                    posn            0
                    major           F
                    describe-card   (format t "Departure, absence, flight, emigration. A dark young man,
friendly. Change of residence.%n" )
                    reversed-text   (format t "Rupture, division, interruption, discord.%n" )
                    reversed  1 )

            (card   ID              "40"
                    name            (format t "Page of Wands%n" )
                    suit            "Wands"
                    num             0
                    posn            0
                    major           F
                    describe-card   (format t "Dark young man, faithful, a lover, an envoy, a postman.
Beside a man, he will bear favorable testimony concerning him. He is a dangerous rival, if followed by the Page of
Cups. Has the chief qualities of his suit.%n" )
                    reversed-text   (format t "Anecdotes, announcements, evil news. Also indecision and
the instability which usually accompanies it.%n" )
                    reversed  1 )

            (card   ID              "41"
                    name            (format t "Ten of Wands%n" )
                    suit            "Wands"
                    num             10
                    posn            0
```

```
		major		F
		describe-card	(format t "A card of many significances, and some of the readings cannot be harmonized. It is oppression simply, but it is also fortune, gain, any kind of success of these things. It is also a card of false-seeming, disguise, perfidy. The place which the figure is approaching may suffer the rods that he carries. Success is stultified if the Nine of Swords follows, and if it is a question of a lawsuit - there will be a certain loss.%n" )
		reversed-text	(format t "Contrarities, difficulties, intrigues, and their analogies.%n" )
		reversed  1 )

	(card	ID		"42"
		name		(format t "Nine of Wands%n" )
		suit		"Wands"
		num		9
		posn		0
		major		F
		describe-card	(format t "The card signifies strength in opposition. If attacked, he will meet the onslaught boldly. With this main significance there are all its possible adjuncts, including delay, suspension, adjournment.%n" )
		reversed-text	(format t "Obstacles, adversity, calamity.%n" )
		reversed  1 )

	(card	ID		"43"
		name		(format t "Eight of Wands%n" )
		suit		"Wands"
		num		8
		posn		0
		major		F
		describe-card	(format t "Activity in undertakings, the path of such activity, swiftness, as that of an express messenger; great haste, great hope, speet towards an end which promises addured felicity; that which is on the move, also the arrows of love.%n" )
		reversed-text	(format t "Arrows of jealousy, internal dispute, stingings of conscience, quarrels.%n" )
		reversed  1 )

	(card	ID		"44"
		name		(format t "Seven of Wands%n" )
		suit		"Wands"
		num		7
		posn		0
		major		F
		describe-card	(format t "It is a card of valor, for on the surface, six are attacking one, who has, however, the vantage position. On the intellectual plane, it signifies discussion, wordy strife, in business - negotiations, war of trade, barter, competition. It is further a card of success, for the combatant is on the top and his enemies may be unable to reach him.%n" )
		reversed-text	(format t "Perplexity, embarassments, anxiety.%n" )
		reversed  1 )

	(card	ID		"45"
		name		(format t "Six of Wands%n" )
		suit		"Wands"
		num		6
		posn		0
		major		F
		describe-card	(format t "The card has been so designed that it can cover several significations. On the surface, it is a victor triumphing, but it is also great news, such as might be carried in state by the King's courier. It is expectation crowned with its own desire, the crown of hope.%n" )
		reversed-text	(format t "Apprehension, fear - as of a victorious enemy at the gate, treachery, disloyalty, as of gates being opened to the enemy.%n" )
		reversed  1 )

	(card	ID		"46"
		name		(format t "Five of Wands%n" )
		suit		"Wands"
		num		5
		posn		0
```

```
                    major           F
                    describe-card   (format t "Imitation, for example, sham fight, the strenuous competition and struggle of the search after riches and fortune. Hence some attributions say that it is a card of gold, gain, opulence.%n" )
                    reversed-text   (format t "Trickery, contradiction, litigation, disputes.%n" )
                    reversed  1 )

          (card     ID              "47"
                    name            (format t "Four of Wands%n" )
                    suit            "Wands"
                    num             4
                    posn            0
                    major           F
                    describe-card   (format t "They are for once almost on the surface - country life, repose, concord, harmony, prosperity, peace, and the perfected work of these.%n" )
                    reversed-text   (format t "They are for once almost on the surface - country life, repose, concord, harmony, prosperity, peace, and the perfected work of these. Increase, felicity, beauty, embellishment.%n" )
                    reversed  1 )

          (card     ID              "48"
                    name            (format t "Three of Wands%n" )
                    suit            "Wands"
                    num             3
                    posn            0
                    major           F
                    describe-card   (format t "The figure on the card symbolizes established strength, enterprise, effort, trade, discovery, commerce; those are his ships, bearing merchandise, which are sailing over the sea.%n" )
                    reversed-text   (format t "The end of troubles, suspension or end of adversity, disappointment, and toil.%n" )
                    reversed  1 )

          (card     ID              "49"
                    name            (format t "Two of Wands%n" )
                    suit            "Wands"
                    num             2
                    posn            0
                    major           F
                    describe-card   (format t "Between the alternative readings there is no possible merging, on the one hand riches, fortune, magnificence. And on the other hand physical suffering, disease, chagrin, sadness, mortification. The design of the card gives one suggesetion - here is a lord overlooking his dominion and alterenately contemplating a globe. It looks like the malady, the mortification, the sadness of Alexander amidst the grandeur of this world's wealth.%n" )
                    reversed-text   (format t "Surprise, wonder, enchantment, emotion, trouble, fear.%n" )
                    reversed  1 )

          (card     ID              "50"
                    name            (format t "Ace of Wands%n" )
                    suit            "Wands"
                    num             1
                    posn            0
                    major           F
                    describe-card   (format t "Creation, invention, enterprise, the powers which result in these, principle, beginning, source, birth, family, origin, the beginning of enterprises, according to another account - money, fortune, inheritance.%n" )
                    reversed-text   (format t "Fall, decadence, ruin, perdition, to perish, also clouded joy.%n" )
                    reversed  1 )
```

```
;; ............ Pentacles ..................................................................
        (card   ID              "51"
                name            (format t "King of Pentacles%n" )
                suit            "Pentacles"
                num             0
                posn            0
                major           F
                describe-card   (format t "Valor, realizing intelligence, business and normal intellectual aptitude, sometimes mathematical gifts and attainments of this kind - success in these paths.%n" )
                reversed-text   (format t "Vice, weakness, ugliness, perversity, corruption, peril.%n" )
                reversed  1 )

        (card   ID              "52"
                name            (format t "Queen of Pentacles%n" )
                suit            "Pentacles"
                num             0
                posn            0
                major           F
                describe-card   (format t "Opulence, generosity, security, magnificence, liberty.%n" )
                reversed-text   (format t "Evil, fear, suspicion, suspense, mistrust.%n" )
                reversed  1 )

        (card   ID              "53"
                name            (format t "Knight of Pentacles%n" )
                suit            "Pentacles"
                num             0
                posn            0
                major           F
                describe-card   (format t "Utility, serviceableness, interest, rectitude, responsibilty.%n" )
                reversed-text   (format t "Inertia, idleness, repose of that kind, stagnation - also discouragement, carelessness.%n" )
                reversed  1 )

        (card   ID              "54"
                name            (format t "Page of Pentacles%n" )
                suit            "Pentacles"
                num             0
                posn            0
                major           F
                describe-card   (format t "Application, study, scholarship, reflection. Another reading says news, messages and the bringer thereof - also rule, management.%n" )
                reversed-text   (format t "Prodigality, dissipation, liberality, luxury, unfavorable news.%n" )
                reversed  1 )

        (card   ID              "55"
                name            (format t "Ten of Pentacles%n" )
                suit            "Pentacles"
                num             10
                posn            0
                major           F
                describe-card   (format t "Gain, riches, family matters, archives, extraction, the abode of a family.%n" )
                reversed-text   (format t "Chance, fatality, loss, robbery, games of hazard; sometimes gift, dowry, pension.%n" )
                reversed  1 )

        (card   ID              "56"
                name            (format t "Nine of Pentacles%n" )
                suit            "Pentacles"
                num             9
                posn            0
```

```
                    major               F
                    describe-card       (format t "Prudence, safety, success, accomplishment, certitude,
discernment.%n" )
                    reversed-text       (format t "Roguery, deception, voided project, bad faith.%n" )
                    reversed  1 )

        (card       ID                  "57"
                    name                (format t "Eight of Pentacles%n" )
                    suit                "Pentacles"
                    num                 8
                    posn                0
                    major               F
                    describe-card       (format t "Work, employment, commission, craftmanship, skill in craft
and business.%n" )
                    reversed-text       (format t "Voided ambition, vanity, cupidity, exaction, usury.%n" )
                    reversed  1 )

        (card       ID                  "58"
                    name                (format t "Seven of Pentacles%n" )
                    suit                "Pentacles"
                    num                 7
                    posn                0
                    major               F
                    describe-card       (format t "Interpretations of this card are exceedingly contradictory, in
the main it is a card of money, business, barter - but one reading gives altercation, quarrel, and another innocence,
ingenuity, purgation.%n" )
                    reversed-text       (format t "Anxiety about money.%n" )
                    reversed  1 )

        (card       ID                  "59"
                    name                (format t "Six of Pentacles%n" )
                    suit                "Pentacles"
                    num                 6
                    posn                0
                    major               F
                    describe-card       (format t "Presents, gifts, gratification. Another account says attention,
vigilance, now is the accepted time, present prosperity, etc.%n" )
                    reversed-text       (format t "Desire, cupidity, envy, jealousy, illusion.%n" )
                    reversed  1 )

        (card       ID                  "60"
                    name                (format t "Five of Pentacles%n" )
                    suit                "Pentacles"
                    num                 5
                    posn                0
                    major               F
                    describe-card       (format t "This card foretells material trouble above all, whether in the
form illustrated, i.e. destitution, or otherwise. For some, it is a card of love and lovers - wife, husband, friend, mistress -
also concordance, affinities. These alternatives cannot be harmonized.%n" )
                    reversed-text       (format t "Disorder, chaos, ruin, discord, profligacy.%n" )
                    reversed  1 )

        (card       ID                  "61"
                    name                (format t "Four of Pentacles%n" )
                    suit                "Pentacles"
                    num                 4
                    posn                0
                    major               F
                    describe-card       (format t "The surety of possessions, cleaving to that which one has,
gifts, legacy, inheritance.%n" )
                    reversed-text       (format t "Suspence, delay, opposition.%n" )
                    reversed  1 )

        (card       ID                  "62"
```

```
                name            (format t "Three of Pentacles%n" )
                suit            "Pentacles"
                num             3
                posn            0
                major           F
                describe-card   (format t "Métier, trade, skilled labor. Usually, however, regarded as a card of nobility, aristocracy, renown, glory.%n" )
                reversed-text   (format t "Mediocrity in work and otherwise, puerility, pettiness, weakness.%n" )
                reversed  1 )

        (card   ID              "63"
                name            (format t "Two of Pentacles%n" )
                suit            "Pentacles"
                num             2
                posn            0
                major           F
                describe-card   (format t "This card is represented as a card of gaiety, recreation and its connections, which is the subject of the design. But it is read also as new and messages in writing, such as obstacles, agitation, trouble, embroilment.%n" )
                reversed-text   (format t "Enforced gaiety, simulated enjoyment, literal sense, handwriting, composition, letters of exchange.%n" )
                reversed  1 )

        (card   ID              "64"
                name            (format t "Ace of Pentacles%n" )
                suit            "Pentacles"
                num             1
                posn            0
                major           F
                describe-card   (format t "Perfect contentment, felicity, ecstasy - also speedy intelligence, gold.%n" )
                reversed-text   (format t "The evil side of wealth, bad intelligence. Also great riches.%n" )
                reversed  1 )



;; ............ Swords ..................................................................
        (card   ID              "65"
                name            (format t "King of Swords%n" )
                suit            "Swords"
                num             0
                posn            0
                major           F
                describe-card   (format t "Whatsoever arises out of the idea of judgement and all its connections - power, command, authority, militiant intelligence, law, offices of the crown, and so forth.%n" )
                reversed-text   (format t "Cruelty, perversity, barbarity, perfidy, evil intention.%n" )
                reversed  1 )

        (card   ID              "66"
                name            (format t "Queen of Swords%n" )
                suit            "Swords"
                num             0
                posn            0
                major           F
                describe-card   (format t "Widowhood, female sadness and embarassment, absence, sterility, mourning, privation, separation.%n" )
                reversed-text   (format t "Malice, bigotry, artifice, pruderey, deceit.%n" )
                reversed  1 )

        (card   ID              "67"
                name            (format t "Knight of Swords%n" )
```

```
                        suit            "Swords"
                        num             0
                        posn            0
                        major           F
                        describe-card   (format t "Skill, bravery, capacity, defense, address, enmity, wrath,
war, destruction, opposition, resistance, ruin.%n" )
                        reversed-text   (format t "Imprudence, incapacity, extravagance.%n" )
                        reversed  1 )

            (card       ID              "68"
                        name            (format t "Page of Swords%n" )
                        suit            "Swords"
                        num             0
                        posn            0
                        major           F
                        describe-card   (format t "Authority, overseeing, secret service, vigilance, spying,
examination, and the qualities thereto belonging.%n" )
                        reversed-text   (format t "More evil side of these qualities, what is unforeseen, an
unprepared state, sickness is also intimated.%n" )
                        reversed  1 )

            (card       ID              "69"
                        name            (format t "Ten of Swords%n" )
                        suit            "Swords"
                        num             10
                        posn            0
                        major           F
                        describe-card   (format t "Whatsoever is intimated by the design - aslo pain, affliction,
tears, sadness, desolation.%n" )
                        reversed-text   (format t "Advantage, profit, success, favor, but none of these are
permanent. Also power and authority.%n" )
                        reversed  1 )

            (card       ID              "70"
                        name            (format t "Nine of Swords%n" )
                        suit            "Swords"
                        num             9
                        posn            0
                        major           F
                        describe-card   (format t "Death, failure, miscarriage, delay, deception,
disappointment, despair.%n" )
                        reversed-text   (format t "Imprisonment, doubt, suspicion, reasonable fear, shame.%n"
)
                        reversed  1 )

            (card       ID              "71"
                        name            (format t "Eight of Swords%n" )
                        suit            "Swords"
                        num             8
                        posn            0
                        major           F
                        describe-card   (format t "Bad news, violent chagrin, crisis, censure, power in
trammels, conflict, calumny - also sickness.%n" )
                        reversed-text   (format t "Disquiet, difficulty, opposition, accident, treachery, the
unforeseen, fatality.%n" )
                        reversed  1 )

            (card       ID              "72"
                        name            (format t "Seven of Swords%n" )
                        suit            "Swords"
                        num             7
                        posn            0
                        major           F
```

```
                    describe-card     (format t "Design, attempt, wish, hope, confidence - also quarrelling.
A plan that may fail, annoyance.%n" )
                    reversed-text     (format t "Good advice, counsel, instruction, slander, babbling.%n" )
                    reversed  1 )

            (card   ID                "73"
                    name              (format t "Six of Swords%n" )
                    suit              "Swords"
                    num               6
                    posn              0
                    major             F
                    describe-card     (format t "Journey by water, route, way, envoy, commissionary,
expedient.%n" )
                    reversed-text     (format t "Declaration, confession, publicity. One account says that it
is a proposal of love.%n" )
                    reversed  1 )

            (card   ID                "74"
                    name              (format t "Five of Swords%n" )
                    suit              "Swords"
                    num               5
                    posn              0
                    major             F
                    describe-card     (format t "Degradation, destruction, reversal, infamy, dishonor,
loss.%n" )
                    reversed-text     (format t "Degradation, destruction, reversal, infamy, dishonor, loss -
burial and obsequies.%n" )
                    reversed  1 )

            (card   ID                "75"
                    name              (format t "Four of Swords%n" )
                    suit              "Swords"
                    num               4
                    posn              0
                    major             F
                    describe-card     (format t "Vigilance, retreat, solitude, hermit's repose, exile, tomb and
coffin.%n" )
                    reversed-text     (format t "Wise administration, circumspection, economy, avarice,
precaution, testament.%n" )
                    reversed  1 )

            (card   ID                "76"
                    name              (format t "Three of Swords%n" )
                    suit              "Swords"
                    num               3
                    posn              0
                    major             F
                    describe-card     (format t "Removal, absence, delay, division, rupture, dispersion, and
all that the design signifies naturally.%n" )
                    reversed-text     (format t "Mental alienation, error, loss, distraction, disorder,
confusion.%n" )
                    reversed  1 )

            (card   ID                "77"
                    name              (format t "Two of Swords%n" )
                    suit              "Swords"
                    num               2
                    posn              0
                    major             F
                    describe-card     (format t "Conformity and the equipoise which it suggests, courage,
friendshhip, affection, concord in a state of arms, intimacy.%n" )
                    reversed-text     (format t "Imposture, falsehood, duplicity, disloyalty.%n" )
                    reversed  1 )
```

```
        (card   ID              "78"
                name            (format t "Ace of Swords%n" )
                suit            "Swords"
                num             1
                posn            0
                major           F
                describe-card   (format t "Triumph, the excessive degree in everything, conquest,
triumph of force. A card of great force, in love as well as in hatred.%n" )
                reversed-text   (format t "Triumph, the excessive degree in everything, conquest,
triumph of force. A card of great force, in love as well as in hatred, but the results are disastrous; another account says
conception, childbirth, augmentation, multiplicity.%n" )
                reversed  1 )


) ;; end of card-facts


;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;


(deffacts non-ordered-combination-facts

        (comb   ID1                     "The Magician"
                rev1                    0
                ID2                     "The Devil"
                rev2                    0
                comb-description  "The Magician's influence lessens and means hesitation.")

        (comb   ID1                     "The Magician"
                rev1                    0
                ID2                     "The Wheel of Fortune"
                rev2                    0
                comb-description  "The Magician's influence lessens and means hesitation.")

        (comb   ID1                     "The Magician"
                rev1                    0
                ID2                     "Death"
                rev2                    0
                comb-description  "The Magician's influence becomes irrelevant.")

        (comb   ID1                     "The High Priestess"
                rev1                    1
                ID2                     "The Wheel of Fortune"
                rev2                    1
                comb-description  "The strength and equilibrium of The Wheel of Fortune increases and
means a certain benefit in legal matters or any kind of application or prayer that otherwise seems hopeless.")

        (comb   ID1                     "The High Priestess"
                rev1                    2
                ID2                     "The Wheel of Fortune"
                rev2                    0
                comb-description  "Describing combination...")

        (comb   ID1                     "The High Priestess"
                rev1                    2
                ID2                     "Temperance"
                rev2                    0
                comb-description  "Describing combination...")

        (comb   ID1                     "The High Priestess"
                rev1                    0
                ID2                     "Temperance"
                rev2                    0
                comb-description  "Describing combination...")
```

```
(comb   ID1                  "The Magician"
        rev1                 0
        ID2                  "The Wheel of Fortune"
        rev2                 0
        comb-description  "Describing combination...")

(comb   ID1                  "The Wheel of Fortune"
        rev1                 0
        ID2                  "The Hermit"
        rev2                 0
        comb-description  "Describing combination...")

(comb   ID1                  "The Wheel of Fortune"
        rev1                 0
        ID2                  "The World"
        rev2                 0
        comb-description  "Describing combination...")

(comb   ID1                  "The Wheel of Fortune"
        rev1                 0
        ID2                  "The Chariot"
        rev2                 0
        comb-description  "Describing combination...")

(comb   ID1                  "The Hanged Man"
        rev1                 0
        ID2                  "Temperance"
        rev2                 0
        comb-description  "Describing combination...")


(comb   ID1                  "Death"
        rev1                 1
        ID2                  "The Tower"
        rev2                 1
        comb-description  "Describing combination...")

(comb   ID1                  "Death"
        rev1                 2
        ID2                  "The Tower"
        rev2                 1
        comb-description  "Describing combination...")

(comb   ID1                  "Death"
        rev1                 2
        ID2                  "The Tower"
        rev2                 2
        comb-description  "Describing combination...")


(comb   ID1                  "Death"
        rev1                 1
        ID2                  "The Tower"
        rev2                 2
        comb-description  "Describing combination...")


(comb   ID1                  "Temperance"
        rev1                 2
        ID2                  "Justice"
```

```
        rev2              0
        comb-description  "Describing combination...")

(comb   ID1               "Temperance"
        rev1              0
        ID2               "The Lovers"
        rev2              0
        comb-description  "Describing combination...")

(comb   ID1               "The Moon"
        rev1              0
        ID2               "The Tower"
        rev2              0
        comb-description  "Describing combination...")

(comb   ID1               "The Moon"
        rev1              0
        ID2               "The Devil"
        rev2              0
        comb-description  "Describing combination...")

(comb   ID1               "The Moon"
        rev1              0
        ID2               "Justice"
        rev2              0
        comb-description  "Describing combination...")

(comb   ID1               "The Moon"
        rev1              0
        ID2               "Death"
        rev2              0
        comb-description  "Describing combination...")


(comb   ID1               "The Moon"
        rev1              1
        ID2               "Death"
        rev2              1
        comb-description  "Describing combination...")

(comb   ID1               "The Moon"
        rev1              1
        ID2               "Death"
        rev2              2
        comb-description  "Describing combination...")

(comb   ID1               "The Moon"
        rev1              2
        ID2               "Death"
        rev2              1
        comb-description  "Describing combination...")



(comb   ID1               "The Moon"
        rev1              2
        ID2               "Death"
        rev2              2
        comb-description  "Describing combination...")



(comb   ID1               "The Sun"
        rev1              0
```

```
              ID2                "The Tower"
              rev2               0
              comb-description   "Describing combination...")

;; ath 96-99
      (comb   ID1                "Judgement"
              rev1               1
              ID2                "The Chariot"
              rev2               0
              comb-description   "Describing combination...")

      (comb   ID1                "Judgement"
              rev1               2
              ID2                "The Chariot"
              rev2               0
              comb-description   "Describing combination...")
;; end ath


      (comb   ID1                "Judgement"
              rev1               2
              ID2                "The Wheel of Fortune"
              rev2               0
              comb-description   "Describing combination...")

      (comb   ID1                "Judgement"
              rev1               2
              ID2                "The Devil"
              rev2               0
              comb-description   "Describing combination...")

      (comb   ID1                "Judgement"
              rev1               2
              ID2                "The Magician"
              rev2               0
              comb-description   "Describing combination...")


      (comb   ID1                "Judgement"
              rev1               2
              ID2                "" ;; ~The Wheel of Fortune, ~The Devil, ~The Magician
              rev2               0
              comb-description   "Describing combination...")


      (comb   ID1                "The World"
              rev1               0
              ID2                "The Sun"
              rev2               0
              comb-description   "Describing combination...")

      (comb   ID1                "The Fool"
              rev1               0
              ID2                "The Wheel of Fortune"
              rev2               0
              comb-description   "Describing combination...")

      (comb   ID1                "The Fool"
              rev1               0
              ID2                "The Devil"
              rev2               0
              comb-description   "Describing combination...")
```

```
        (comb   ID1                 "The Fool"
                rev1                0
                ID2                 "The Chariot"
                rev2                0
                comb-description  "Describing combination...")

        (comb   ID1                 "The Fool"
                rev1                0
                ID2                 "The Sun"
                rev2                0
                comb-description  "Describing combination...")

) ;; end of non-ordered-combination-facts


(deffacts ordered-combination-facts

        (comb   ID1                 "The Empress"
                rev1                0
                ID2                 "The Magician"
                rev2                0
                comb-description  "Describing combination...")

        (comb   ID1                 "The Empress"
                rev1                1
                ID2                 "The Chariot"
                rev2                0
                comb-description  "Describing combination...")

        (comb   ID1                 "The Empress"
                rev1                2
                ID2                 "The Chariot"
                rev2                0
                comb-description  "Describing combination...")

        (comb   ID1                 "The Emporer"
                rev1                1
                ID2                 "The World"
                rev2                0
                comb-description  "Describing combination...")

        (comb   ID1                 "The Emporer"
                rev1                2
                ID2                 "The World"
                rev2                0
                comb-description  "Describing combination...")


        (comb   ID1                 "The Emporer"
                rev1                0
                ID2                 "The Hierophant"
                rev2                0
                comb-description  "Describing combination...")

        (comb   ID1                 "The Hierophant"
                rev1                2
                ID2                 "The Emporer"
                rev2                2
                comb-description  "Describing combination...")


        (comb   ID1                 "The Lovers"        ;; ath..... rules 22-23
                rev1                0
```

```
                    ID2                 "The Chariot"
                    rev2                0
                    comb-description    "Describing combination...")


) ;; end of non-ordered-combination-facts


(deffacts assorted-facts
        (display card)
) ;; end of assorted-facts


;;-----------------------------------------------------------------------------------------------------------------------------
;; ----- THE GLOBAL VARIABLES ------

(defglobal ?*reading-is-complete* = 0)

(defglobal ?*frame-one* = 0)
(defglobal ?*frame-two* = 0)
(defglobal ?*frame-three* = 0)
(defglobal ?*frame-four* = 0)
(defglobal ?*frame-five* = 0)
(defglobal ?*frame-six* = 0)

(defglobal ?*panel* = 0)
(defglobal ?*text-win* = 0)
(defglobal ?*test-text-win* = 0)
(defglobal ?*selected-radio* = 0)
(defglobal ?*selected-list* = "")
(defglobal ?*rotate-value* = 99)
(defglobal ?*shuffled-times* = 0)
(defglobal ?*the-deck* = (create$))
(defglobal ?*submit-attempts* = (create$))
(defglobal ?*reverse-set* = (create$))
(defglobal ?*cut-deck-at* = 1) ;; 1 = "cut deck at first card" = do not cut (which is a legal move)
(defglobal ?*first-half* = (create$))
(defglobal ?*top-of-deck* = 0)
(defglobal ?*next-card* = "")
(defglobal ?*display-card-name* = "...")
(defglobal ?*display-card-ID* = "x")
(defglobal ?*display-card-description* = "bla")
(defglobal ?*display-is-reversed* = "")
(defglobal ?*count-posn* = 1) ;; 1 so doesn't fall thru switch (1-10) when assigning to display-posn
(defglobal ?*max-posn* = 10) ;; for Celtic Cross
(defglobal ?*first-deal* = 1)

;; positions for cards in the layout
(defglobal ?*posn-one* = 0)
(defglobal ?*posn-two* = 0)
(defglobal ?*posn-three* = 0)
(defglobal ?*posn-four* = 0)
(defglobal ?*posn-five* = 0)
(defglobal ?*posn-six* = 0)
(defglobal ?*posn-seven* = 0)
(defglobal ?*posn-eight* = 0)
(defglobal ?*posn-nine* = 0)
(defglobal ?*posn-ten* = 0)
(defglobal ?*display-posn* = 0)

;; for testing
(defglobal ?*test-posn-one* = 0)
(defglobal ?*test-posn-two* = 0)
(defglobal ?*test-posn-three* = 0)
```

```
(defglobal ?*test-posn-four* = 0)
(defglobal ?*test-posn-five* = 0)
(defglobal ?*test-posn-six* = 0)
(defglobal ?*test-posn-seven* = 0)
(defglobal ?*test-posn-eight* = 0)
(defglobal ?*test-posn-nine* = 0)
(defglobal ?*test-posn-ten* = 0)
(defglobal ?*display-test-posn* = 0)
(defglobal ?*test-num-string* = "99") ;; needs to be a string because of input area
(defglobal ?*original-deck* = (create$ "1" "2" "3" "4" "5" "6" "7" "8" "9" "10" "11" "12" "13" "14" "15" "16" "17" "18"
"19" "20" "21" "22" "23" "24" "25" "26" "27" "28" "29" "30" "31" "32" "33" "34" "35" "36" "37" "38" "39" "40" "41"
"42" "43" "44" "45" "46" "47" "48" "49" "50" "51" "52" "53" "54" "55" "56" "57" "58" "59" "60" "61" "62" "63" "64"
"65" "66" "67" "68" "69" "70" "71" "72" "73" "74" "75" "76" "77" "78"))



;;---------------------------------------------------------------------------------------------------------------------------
;; ----- THE RULES ------


(defrule update-posn
		?update <- (time-to-update-posn ?num ?updateCardID)
		?card   <- (card  ID ?updateCardID  $?moreStuff1  posn 0  $?moreStuff2)
		=>
		(retract ?update)
		(retract ?card)
		(assert (card  ID ?updateCardID  $?moreStuff1  posn ?num  $?moreStuff2))
) ;; end defrule update-posn


(defrule find-neighbors-in-layout
		(layout-done)
		;; find a card with "lowest posn > 0" = x
		(card  ID ?cardOne  name ?name1  $?  posn ?where1&:(not (= ?where1 0))  $?)
		;; find card with posn = x+1
		(card  ID ?cardTwo  name ?name2  $?  posn ?where2&:(= ?where2 (+ 1 ?where1))  $?)
		=>
;;		(assert (neighbors ?cardOne ?cardTwo)) ;; will want to use ID's for matching
		(assert (neighbors ?name1 ?name2)) ;; using the names for debugging purposes
) ;; end defrule find-neighbors-in-layout


;; this rule is under construction.....
(defrule combination-to-display
		;; find neighbors fact
		?n <- (neighbors  ?id1  ?id2)
		;; find a comb fact with both ID's
		(comb  ID1 ?id1  rev1 ?r1  ID2 ?id2  rev2 ?r2  comb-description ?desc)		;; NB-MOST OF THE COMB
FACTS SO FAR HAVE 0 IN REV
		;; the comb fact and card facts must also have same value in reversed (1=True, 2=False) as appropriate
		(card  $?  name ?id1  $?  reversed ?r1)
		(card  $?  name ?id2  $?  reversed ?r2)
		=>
		(retract ?n)
		;; bind comb-text in display-text.... hmmm if I do a complete run, then the comb-text will be constantly
overwritten and will only display last entry?
(format t "trying something")
		;; how about concatenating?? into one big display-text
		;;   but if a do (run 1) then find neighbors will repeatedly be fired?? or not??? (no facts have been added since
it last fired)
) ;; end defrule combination-to-display
```

```
(defrule reverse-this-card
        ?revCard <- (card-to-reverse ?num ?counter)
        ?card <- (card ID ?num  $?someStuff  reversed ?rev)
        =>
        (retract ?revCard)
        (retract ?card)
        (assert (card ID ?num $?someStuff reversed (- 3 ?rev)))
) ;; end defrule reverse-this-card



(defrule next-card-to-display
        ?show <- (display card)
        ?next <- (next-card ?nextNum)
        ?card <- (card  ID ?nextNum  name ?cardName  $?more1  describe-card ?cardDescription  reversed-text
?reverseDescription  reversed ?rev)
        =>
        (retract ?next)
        (bind ?*display-card-name* ?cardName)
        (bind ?*display-card-ID* ?nextNum)
        (if (= ?rev 2)
          then
                (bind ?*display-is-reversed* (format t "reversed%n"))
                (bind ?*display-card-description* ?reverseDescription)
         else
                (bind ?*display-card-description* ?cardDescription)
        ) ;; end if
        (switch ?*count-posn*
                (case 1
                  then
                        (bind ?*display-posn* ?*posn-one*)
                        (bind ?*display-test-posn* ?*test-posn-one*))
                (case 2
                  then
                        (bind ?*display-posn* ?*posn-two*)
                        (bind ?*display-test-posn* ?*test-posn-two*))
                (case 3
                  then
                        (bind ?*display-posn* ?*posn-three*)
                        (bind ?*display-test-posn* ?*test-posn-three*))
                (case 4
                  then
                        (bind ?*display-posn* ?*posn-four*)
                        (bind ?*display-test-posn* ?*test-posn-four*))
                (case 5
                  then
                        (bind ?*display-posn* ?*posn-five*)
                        (bind ?*display-test-posn* ?*test-posn-five*))
                (case 6
                  then
                        (bind ?*display-posn* ?*posn-six*)
                        (bind ?*display-test-posn* ?*test-posn-six*))
                (case 7
                  then
                        (bind ?*display-posn* ?*posn-seven*)
                        (bind ?*display-test-posn* ?*test-posn-seven*))
                (case 8
                  then
                        (bind ?*display-posn* ?*posn-eight*)
                        (bind ?*display-test-posn* ?*test-posn-eight*))
                (case 9
                  then
                        (bind ?*display-posn* ?*posn-nine*)
                        (bind ?*display-test-posn* ?*test-posn-nine*))
```

```
                (case 10
                  then
                        (bind ?*display-posn* ?*posn-ten*)
                        (bind ?*display-test-posn* ?*test-posn-ten*))
        ) ;; end switch


) ;; end defrule


;;---------------------------------------------------------------------------------------------------------------------
;; ----- CREATING THE FRAMES ------

;; ==============  Step 1  ==============
(deffunction first-frame ()
;;      (bind ?*frame-one* (frame-create 0 "T.R.Y. - Tarot Reading Yourself - v.0.83" -1 -1 800 600))
        (bind ?*frame-one* (frame-create 0 "T.R.Y. - Tarot Reading Yourself - v.1.0" -1 -1 800 600))
        (frame-create-status-line ?*frame-one*)
        (frame-set-status-text ?*frame-one* "Select one of the radio buttons.")

        (window-add-callback ?*frame-one* OnMenuCommand on-menu-command)

        (bind ?w (window-get-client-width ?*frame-one*))
        (bind ?h (window-get-client-height ?*frame-one*))

        ;;   Make a menu bar:
        ;; First, the drop-down options for File
        (bind ?file-menu (menu-create))
        (menu-append ?file-menu 11 "&Quit")
        ;; Second, the drop-down options for Help
        (bind ?help-menu (menu-create))
        (menu-append ?help-menu 21 "&About")
        ;; Then, combine the options into the menu-bar
        (bind ?menu-bar (menu-bar-create))
        (menu-bar-append ?menu-bar ?file-menu "&File")
        (menu-bar-append ?menu-bar ?help-menu "&Help")
        ;; Finally, place the menu bar on the frame
        (frame-set-menu-bar ?*frame-one* ?menu-bar)

        ;;   Make a panel and panel items:
        (bind ?*panel* (panel-create ?*frame-one* 0 0 ?w ?h ))
        ;; intro text
        (message-create ?*panel* "Welcome" (* ?w 0.45) (* ?h 0.13))
        (message-create ?*panel* "to" (* ?w 0.47) (* ?h 0.20))
        (message-create ?*panel* "T.R.Y." (* ?w 0.46) (* ?h 0.27))
        ;; choose program mode
        (bind ?radiobox (radio-box-create ?*panel* "radio-box-callback" "" (* ?w 0.38) (* ?h 0.43) 200 100
                (mv-append "Begin reading process  " "Create new layout  " "Test session  ") 3 "wxVERTICAL"
""))

        ;; Create the buttons
        (bind ?button (button-create ?*panel* on-button-action "Continue" (* ?w 0.25) (* ?h 0.8) 70 -1 "" "c1"))
        (bind ?button (button-create ?*panel* on-button-action "Quit" (* ?w 0.6) (* ?h 0.8) 70 -1 "" "q"))

        (window-centre ?*frame-one* wxBOTH)
        (window-show ?*frame-one* 1)

) ;; end deffunction ====================
```

```
;; ==============  Step 2  ==============
(deffunction second-frame ()
	(bind ?*frame-two* (frame-create 0 "T.R.Y. - selecting a layout" -1 -1 800 600))
	(frame-create-status-line ?*frame-two*)
	(frame-set-status-text ?*frame-two* "Select a layout from the list.")

	(window-add-callback ?*frame-two* OnCommand on-list-select)
	(window-add-callback ?*frame-two* OnMenuCommand on-menu-command)

	(bind ?w (window-get-client-width ?*frame-two*))
	(bind ?h (window-get-client-height ?*frame-two*))

	;;   Make a menu bar:
	;; First, the drop-down options for File
	(bind ?file-menu (menu-create))
	(menu-append ?file-menu 11 "&Quit")
	;; Second, the drop-down options for Help
	(bind ?help-menu (menu-create))
	(menu-append ?help-menu 21 "&About")
	;; Then, combine the options into the menu-bar
	(bind ?menu-bar (menu-bar-create))
	(menu-bar-append ?menu-bar ?file-menu "&File")
	(menu-bar-append ?menu-bar ?help-menu "&Help")
	;; Finally, place the menu bar on the frame
	(frame-set-menu-bar ?*frame-two* ?menu-bar)

	;;   Make a panel and panel items:
	(bind ?*panel* (panel-create ?*frame-two* 0 0 ?w ?h))
	(panel-set-label-position ?*panel* wxVERTICAL)

	;; Create listbox to select layout from
	(bind ?list (list-box-create ?*panel* "on-list-select" "Select a layout:" 0 (* ?w 0.39) (* ?h 0.27) 150 100 
wxNEEDED_SB ))
	(list-box-append ?list "Celtic Cross")
	(list-box-append ?list "Create new layout")
	(list-box-append ?list "...")
	(list-box-set-selection ?list 0 1)
	(bind ?*selected-list* "Celtic Cross")

	;; Create the buttons
	(bind ?button (button-create ?*panel* on-button-action "Continue" (* ?w 0.25) (* ?h 0.8) 70 -1 "" "c2"))
	(bind ?button (button-create ?*panel* on-button-action "Quit" (* ?w 0.6) (* ?h 0.8) 70 -1 "" "q"))

	(window-centre ?*frame-two* wxBOTH)
	(window-show ?*frame-two* 1)

) ;; end deffunction ====================



;; ==============  Step 3  ==============
(deffunction third-frame ()
	(bind ?*frame-three* (frame-create 0 "T.R.Y. - preparing the deck" -1 -1 800 600))
	(frame-create-status-line ?*frame-three*)
	(frame-set-status-text ?*frame-three* (format t "You have shuffled the deck %d time(s)." ?*shuffled-times*))

	(window-add-callback ?*frame-three* OnMenuCommand on-menu-command)

	(bind ?w (window-get-client-width ?*frame-three*))
	(bind ?h (window-get-client-height ?*frame-three*))

	;;   Make a menu bar:
	;; First, the drop-down options for File
```

```
        (bind ?file-menu (menu-create))
        (menu-append ?file-menu 11 "&Quit")
        ;; Second, the drop-down options for Help
        (bind ?help-menu (menu-create))
        (menu-append ?help-menu 21 "&About")
        ;; Then, combine the options into the menu-bar
        (bind ?menu-bar (menu-bar-create))
        (menu-bar-append ?menu-bar ?file-menu "&File")
        (menu-bar-append ?menu-bar ?help-menu "&Help")
        ;; Finally, place the menu bar on the frame
        (frame-set-menu-bar ?*frame-three* ?menu-bar)

        ;;   Make a panel and panel items:
        (bind ?*panel* (panel-create ?*frame-three* 0 0 ?w ?h))
        ;; "concentrate on your query" text
        (message-create ?*panel* "Whether you choose to believe it or not, the tarot cards are influenced by your
subconscious and your frame of mind." (* ?w 0.135) (* ?h 0.11))
        (panel-new-line ?*panel*)
        (panel-new-line ?*panel*)
        (message-create ?*panel* "To get a more accurate answer from the cards, close your eyes, take a deep relaxing
breath and exhale slowly." (* ?w 0.15) -1)
        (panel-new-line ?*panel*)
        (panel-new-line ?*panel*)
        (message-create ?*panel* "Then concentrate on the issue you seek an answer to while you shuffle and cut the
deck as many times as you feel is appropriate." (* ?w 0.1) -1)
        (panel-new-line ?*panel*)
        (panel-new-line ?*panel*)

;; I wanted to center the text instead of manually placing on the frame, but
;; these don't work because ?w is not an integer or float (its a symbol??)
;;      ;; first assign the text to variables in order to calculate their length to be able to center the text
;;      (bind ?query1 "Whether you choose to believe it or not, the tarot cards")
;;      (bind ?query2 "are influenced by your subconscious and your frame of mind.")
;;      (bind ?query3 "To get a more accurate answer from the cards,")
;;      (bind ?query4 "close your eyes and take a deep relaxing breath.")
;;      (bind ?query5 "Then concentrate on the issue you seek an answer to while you")
;;      (bind ?query6 "shuffle and cut the deck as many times as you feel is appropriate.")
;;      ;; display the text
;;      (message-create ?*panel* ?query1 (- (/ ?w 2) (/ ?query1 2)) (* ?h 0.08))
;;      (panel-new-line ?*panel*)
;;      (message-create ?*panel* ?query2 (- (/ ?w 2) (/ ?query2 2)) -1)
;;      (panel-new-line ?*panel*)
;;      (message-create ?*panel* ?query3 (- (/ ?w 2) (/ ?query3 2)) -1)
;;      (panel-new-line ?*panel*)
;;      (message-create ?*panel* ?query4 (- (/ ?w 2) (/ ?query4 2)) -1)
;;      (panel-new-line ?*panel*)
;;      (message-create ?*panel* ?query5 (- (/ ?w 2) (/ ?query5 2)) -1)
;;      (panel-new-line ?*panel*)
;;      (message-create ?*panel* ?query6 (- (/ ?w 2) (/ ?query6 2)) -1)

        ;; shuffle button and cut slider
        (bind ?button (button-create ?*panel* on-button-action "Shuffle" (* ?w 0.43) (* ?h 0.35) 70 -1 "" "shuffle"))
        (bind ?slider (slider-create ?*panel* on-slider "Cut the deck:" 1 1 78 675 (* ?w 0.09) (* ?h 0.47) ))

        ;; allow user to rotate
        (message-create ?*panel* "Some people naturally rotate half the deck 180° when they cut it.  Select here if you
wish to do so:" (* ?w 0.2) (* ?h 0.6))
        (panel-new-line ?*panel*)
        (bind ?check (check-box-create ?*panel* on-checkbox "Rotate deck" (* ?w 0.43) -1 ))

        ;; Create the buttons
        (bind ?button (button-create ?*panel* on-button-action "Continue" (* ?w 0.25) (* ?h 0.8) 70 -1 "" "c3"))
        (bind ?button (button-create ?*panel* on-button-action "Quit" (* ?w 0.6) (* ?h 0.8) 70 -1 "" "q"))
```

```
        (window-centre ?*frame-three* wxBOTH)
        (window-show ?*frame-three* 1)

) ;; end deffunction ====================



;; ============= Step 4 ==============
(deffunction fourth-frame ()
        (bind ?*frame-four* (frame-create 0 "T.R.Y. - reading the cards" -1 -1 800 600))
        (frame-create-status-line ?*frame-four*)

        (window-add-callback ?*frame-four* OnMenuCommand on-menu-command)

        (bind ?w (window-get-client-width ?*frame-four*))
        (bind ?h (window-get-client-height ?*frame-four*))

        ;;   Make a menu bar:
        ;; First, the drop-down options for File
        (bind ?file-menu (menu-create))
        (menu-append ?file-menu 11 "&Quit")
        ;; Second, the drop-down options for Help
        (bind ?help-menu (menu-create))
        (menu-append ?help-menu 21 "&About")
        ;; Then, combine the options into the menu-bar
        (bind ?menu-bar (menu-bar-create))
        (menu-bar-append ?menu-bar ?file-menu "&File")
        (menu-bar-append ?menu-bar ?help-menu "&Help")
        ;; Finally, place the menu bar on the frame
        (frame-set-menu-bar ?*frame-four* ?menu-bar)

        ;; Make a panel and panel items:
        (bind ?panel-width (* ?w 0.7))
        (bind ?text-area-width (* ?w 0.3))
        (bind ?*panel* (panel-create ?*frame-four* 0 0 ?panel-width ?h))
        ;; text area to display card meanings
        (bind ?*text-win* (text-window-create ?*frame-four* ?panel-width 0 ?text-area-width (* ?h 0.965) ))
        (window-set-size ?*text-win* ?panel-width 0 ?text-area-width (* ?h 0.965) )
        (text-window-set-editable ?*text-win* 0)


        ;; formatting for a table layout
        ;; vertical spacing
        (bind ?col-space (* ?w 0.01))
        (bind ?card-width (* ?w 0.09))
        ;; horizontal spacing
        (bind ?cross-space (* ?h 0.04))
        (bind ?staff-space (* ?h 0.025))
        (bind ?card-height (* ?h 0.17))
        ;; borders
        (bind ?vertical-border (* 3 ?col-space))
        (bind ?horizontal-border (* ?h 0.06))
        ;; one grid-width
        (bind ?grid-width (+ ?col-space ?card-width ?col-space))
        ;; one grid-height
        (bind ?grid-height-cross (+ ?cross-space ?card-height ?cross-space))
        (bind ?grid-height-staff (+ ?staff-space ?card-height ?staff-space))


        ;; card positions of Celtic Cross layout
        (message-create ?*panel* "1. Environment"
                (+ ?vertical-border (* 3 ?grid-width) (/ ?col-space 2)) ;; x-posn
                (+ ?horizontal-border ?grid-height-cross)) ;; y-posn
        (bind ?*posn-one* (text-window-create ?*frame-four*
```

```
        (+ ?vertical-border (* 3 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "2. Obstacles"
        (+ ?vertical-border ?grid-width ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross)) ;; y-posn
(bind ?*posn-two* (text-window-create ?*frame-four*
        (+ ?vertical-border ?grid-width ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   3. Goal"
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        ?horizontal-border) ;; y-posn
(bind ?*posn-three* (text-window-create ?*frame-four*
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   4. Tools"
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 2 ?grid-height-cross) )) ;; y-posn
(bind ?*posn-four* (text-window-create ?*frame-four*
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 2 ?grid-height-cross) ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   5. Past"
        (+ ?vertical-border (* 4 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross )) ;; y-posn
(bind ?*posn-five* (text-window-create ?*frame-four*
        (+ ?vertical-border (* 4 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   6. Future"
        (+ ?vertical-border ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross)) ;; y-posn
(bind ?*posn-six* (text-window-create ?*frame-four*
        (+ ?vertical-border ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   7. Self"
        (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 3 ?grid-height-staff) )) ;; y-posn
(bind ?*posn-seven* (text-window-create ?*frame-four*
        (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 3 ?grid-height-staff) ?staff-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* " 8. Influence"
        (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 2 ?grid-height-staff) )) ;; y-posn
(bind ?*posn-eight* (text-window-create ?*frame-four*
        (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 2 ?grid-height-staff) ?staff-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "9. Hopes/fears"
        (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-staff)) ;; y-posn
(bind ?*posn-nine* (text-window-create ?*frame-four*
```

```
                (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
                (+ ?horizontal-border ?grid-height-staff ?staff-space) ;; y-posn
                ?card-width ?card-height))

        (message-create ?*panel* "10. Outcome"
                (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
                ?horizontal-border) ;; y-posn
        (bind ?*posn-ten* (text-window-create ?*frame-four*
                (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
                (+ ?horizontal-border ?staff-space) ;; y-posn
                ?card-width ?card-height))


        ;; Create the buttons
        (bind ?button (button-create ?*panel* on-button-action "Deal" (* (* ?w 0.7) 0.1) (* ?h 0.9) 70 -1 "" "deal"))
        (bind ?button (button-create ?*panel* on-button-action "Continue" (* (* ?w 0.7) 0.25) (* ?h 0.9) 70 -1 ""
"c4"))
        (bind ?button (button-create ?*panel* on-button-action "Quit" (* (* ?w 0.7) 0.6) (* ?h 0.9) 70 -1 "" "q"))

        (window-centre ?*frame-four* wxBOTH)
        (window-show ?*frame-four* 1)

) ;; end deffunction ====================



;; ============== Step 5 ==============
(deffunction fifth-frame ()
        (bind ?*frame-five* (frame-create 0 "T.R.Y. - test session" -1 -1 800 600))
        (frame-create-status-line ?*frame-five*)

        (window-add-callback ?*frame-five* OnMenuCommand on-menu-command)

        (bind ?w (window-get-client-width ?*frame-five*))
        (bind ?h (window-get-client-height ?*frame-five*))

        ;;   Make a menu bar:
        ;; First, the drop-down options for File
        (bind ?file-menu (menu-create))
        (menu-append ?file-menu 11 "&Quit")
        ;; Second, the drop-down options for Help
        (bind ?help-menu (menu-create))
        (menu-append ?help-menu 21 "&About")
        ;; Then, combine the options into the menu-bar
        (bind ?menu-bar (menu-bar-create))
        (menu-bar-append ?menu-bar ?file-menu "&File")
        (menu-bar-append ?menu-bar ?help-menu "&Help")
        ;; Finally, place the menu bar on the frame
        (frame-set-menu-bar ?*frame-five* ?menu-bar)

        ;; Make a panel and panel items:
        (bind ?panel-width (* ?w 0.7))
        (bind ?text-area-width (* ?w 0.3))
        (bind ?*panel* (panel-create ?*frame-five* 0 0 ?panel-width ?h))
        ;; text area to display card meanings
        (bind ?*test-text-win* (text-window-create ?*frame-five* ?panel-width 0 ?text-area-width (* ?h 0.965) ))
        (window-set-size ?*test-text-win* ?panel-width 0 ?text-area-width (* ?h 0.965) )
        (text-window-set-editable ?*test-text-win* 0)

        ;; formatting for a table layout
        ;; vertical spacing
        (bind ?col-space (* ?w 0.01))
        (bind ?card-width (* ?w 0.09))
        ;; horizontal spacing
```

```
(bind ?cross-space (* ?h 0.04))
(bind ?staff-space (* ?h 0.025))
(bind ?card-height (* ?h 0.17))
;; borders
(bind ?vertical-border (* 3 ?col-space))
(bind ?horizontal-border (* ?h 0.06))
;; one grid-width
(bind ?grid-width (+ ?col-space ?card-width ?col-space))
;; one grid-height
(bind ?grid-height-cross (+ ?cross-space ?card-height ?cross-space))
(bind ?grid-height-staff (+ ?staff-space ?card-height ?staff-space))


;; card positions of Celtic Cross layout
(message-create ?*panel* "1. Environment"
        (+ ?vertical-border (* 3 ?grid-width) (/ ?col-space 2)) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross)) ;; y-posn
(bind ?*test-posn-one* (text-window-create ?*frame-five*
        (+ ?vertical-border (* 3 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "2. Obstacles"
        (+ ?vertical-border ?grid-width ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross)) ;; y-posn
(bind ?*test-posn-two* (text-window-create ?*frame-five*
        (+ ?vertical-border ?grid-width ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   3. Goal"
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        ?horizontal-border) ;; y-posn
(bind ?*test-posn-three* (text-window-create ?*frame-five*
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   4. Tools"
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 2 ?grid-height-cross) )) ;; y-posn
(bind ?*test-posn-four* (text-window-create ?*frame-five*
        (+ ?vertical-border (* 2 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border (* 2 ?grid-height-cross) ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   5. Past"
        (+ ?vertical-border (* 4 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross )) ;; y-posn
(bind ?*test-posn-five* (text-window-create ?*frame-five*
        (+ ?vertical-border (* 4 ?grid-width) ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   6. Future"
        (+ ?vertical-border ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross)) ;; y-posn
(bind ?*test-posn-six* (text-window-create ?*frame-five*
        (+ ?vertical-border ?col-space) ;; x-posn
        (+ ?horizontal-border ?grid-height-cross ?cross-space) ;; y-posn
        ?card-width ?card-height))

(message-create ?*panel* "   7. Self"
        (+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
```

```
		(+ ?horizontal-border (* 3 ?grid-height-staff) )) ;; y-posn
	(bind ?*test-posn-seven* (text-window-create ?*frame-five*
		(+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
		(+ ?horizontal-border (* 3 ?grid-height-staff) ?staff-space) ;; y-posn
		?card-width ?card-height))

	(message-create ?*panel* " 8. Influence"
		(+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
		(+ ?horizontal-border (* 2 ?grid-height-staff) )) ;; y-posn
	(bind ?*test-posn-eight* (text-window-create ?*frame-five*
		(+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
		(+ ?horizontal-border (* 2 ?grid-height-staff) ?staff-space) ;; y-posn
		?card-width ?card-height))

	(message-create ?*panel* "9. Hopes/fears"
		(+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
		(+ ?horizontal-border ?grid-height-staff)) ;; y-posn
	(bind ?*test-posn-nine* (text-window-create ?*frame-five*
		(+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
		(+ ?horizontal-border ?grid-height-staff ?staff-space) ;; y-posn
		?card-width ?card-height))

	(message-create ?*panel* "10. Outcome"
		(+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
		?horizontal-border) ;; y-posn
	(bind ?*test-posn-ten* (text-window-create ?*frame-five*
		(+ ?vertical-border (* 5 ?grid-width) ?col-space) ;; x-posn
		(+ ?horizontal-border ?staff-space) ;; y-posn
		?card-width ?card-height))


	;; for the test procedure
	(panel-set-label-position ?*panel* wxHORIZONTAL)
	(bind ?text (text-create ?*panel* input-callback "Enter card no.:" "99  " (* (* ?w 0.7) 0.13) (* ?h 0.83) -1 -1
"wxPROCESS_ENTER"))

	;; Create the buttons
	(bind ?button (button-create ?*panel* on-button-action "Submit" (* (* ?w 0.7) 0.1) (* ?h 0.9) 70 -1 ""
"submit"))
	(bind ?button (button-create ?*panel* on-button-action "Continue" (* (* ?w 0.7) 0.25) (* ?h 0.9) 70 -1 ""
"c5"))
	(bind ?button (button-create ?*panel* on-button-action "Quit" (* (* ?w 0.7) 0.6) (* ?h 0.9) 70 -1 "" "q"))


	(window-centre ?*frame-five* wxBOTH)
	(window-show ?*frame-five* 1)

) ;; end deffunction ====================



;;----------------------------------------------------------------------------------------------------------------------------
;; ----- GENERAL FUNCTIONALITY ------

;; make a set of numbers to reverse
(deffunction reverse-some-cards ()
	(bind ?counter 0)
	(while (< ?counter 78)
		;; generate random number for reversing cards
		(bind ?rev-num (+ 1 (mod (random) 78)))
		(assert (card-to-reverse (str-cat ?rev-num) ?counter))
		(bind ?counter (+ 1 ?counter))
	) ;; loop
) ;; end deffunction reverse-some-cards
```

```
;; create the deck
(deffunction create-deck ()
	(begin-busy-cursor)
	;; do until ?*the-deck* contains 78 numbers
	(while (< (length$ ?*the-deck*) 78)
		;; generate random num for the deck
		;; add one so that range is from 1-78 instead of 0-77
		(bind ?rand-num (+ 1 (mod (random) 78)))
		;; if the generated number is not in ?the-deck, add it to ?the-deck
		(if (eq (member$ ?rand-num ?*the-deck*) FALSE)
		  then
			;; add one to put ?rand-num after last posn
			(bind ?*the-deck* (insert$ ?*the-deck* (+ 1 (length$ ?*the-deck*)) ?rand-num))
		) ;; end if
	) ;; end while
	(if (= ?*selected-radio* 2)
	  then
		;; do not reverse cards
	  else
		(reverse-some-cards)
		(run)
	) ;; end if
	(end-busy-cursor)
) ;; end deffunction create-deck


;; create "new" deck after cutting and rotating
(deffunction deck-after-cut-and-rotate ()
	(bind ?first-half (subseq$ ?*the-deck* ?*cut-deck-at* 78))
	(bind ?second-half (subseq$ ?*the-deck* 1 (- ?*cut-deck-at* 1) ))
	(bind ?*the-deck* (create$ ?first-half ?second-half))
	(bind ?counter 100)
	(while (> (length$ ?first-half) 0)
		(assert (card-to-reverse (implode$ (first$ ?first-half)) ?counter))
		(bind ?first-half (rest$ ?first-half))
		(bind ?counter (+ 1 ?counter))
	) ;; loop
	(run)
) ;; end deffunction deck-after-cut-and-rotate


;; create "new" deck after cutting
(deffunction deck-after-cut ()
	(bind ?first-half (subseq$ ?*the-deck* ?*cut-deck-at* 78))
	(bind ?second-half (subseq$ ?*the-deck* 1 (- ?*cut-deck-at* 1) ))
	(bind ?*the-deck* (create$ ?first-half ?second-half))
) ;; end deffunction deck-after-cut


;; identify top card of the deck
(deffunction get-next-card ()
	(bind ?*top-of-deck* (first$ ?*the-deck*))
	(bind ?*the-deck* (rest$ ?*the-deck*))
;;	(bind ?*next-card* (implode$ ?*top-of-deck*)) ;; this was the offending line of code => defglobals do not fire
defrules
	(assert (next-card (implode$ ?*top-of-deck*)))
) ;; end deffunction get-next-card
```

```
;;-----------------------------------------------------------------------------------------------------------------------
;; ----- BASIC FRAME FUNCTIONALITY ------

;; Sizing callback
(deffunction on-size (?id ?w ?h)
	(if	(and (neq ?id 0) (neq ?*panel* 0))
	  then
		(bind ?client-width (window-get-client-width ?id))
		(bind ?client-height (window-get-client-height ?id))
		(window-set-size ?*panel* 0 0 ?client-width ?client-height)
	) ;; end if
) ;; end deffunction on-size


;; Closing callback
(deffunction on-close (?frame)
	(format t "Closing frame.%n")
 1) ;; end deffunction on-close


;; Menu callback
(deffunction on-menu-command (?frame ?id)
	(switch ?id
		(case 21
			then (message-box (format t "%nT.R.Y. - Tarot Reading Yourself is a simple program that allows the user to %nperform an electronic tarot reading by her- or himself.%n%n by %nMartha Dís Brandt%n (c) 2006%n") wxOK 1 0 "About T.R.Y. - Tarot Reading Yourself")
		) ;; end case 21
		(case 11
			then (if (on-close ?frame)
				then (window-delete ?frame)
			     ) ;; end if
		) ;; end case 11
	) ;; end switch
) ;; end deffunction on-menu-command



;;-----------------------------------------------------------------------------------------------------------------------
;; ----- USER INTERACTIONS ------

;; Input callback
(deffunction input-callback (?id)
	(bind ?*test-num-string* (text-get-value ?id))
) ;; end deffunction input-callback


;; Checkbox callback
(deffunction on-checkbox (?id)
	(bind ?*rotate-value* (check-box-get-value ?id))
) ;; end deffunction on-checkbox


;; Slider callback
(deffunction on-slider (?id)
	(bind ?*cut-deck-at* (slider-get-value ?id))
) ;; end deffunction on-slider


;; Listbox callback
(deffunction on-list-select (?id)
	(bind ?*selected-list* (list-box-get-string-selection ?id))
) ;; end deffunction on-list-select
```

```
;; Radiobox callback
(deffunction radio-box-callback (?id)
  (bind ?sel (radio-box-get-selection ?id))
        (switch (radio-box-get-selection ?id)
                (case 0 ;; "Begin reading process"
                  then
                        (bind ?*selected-radio* 0)
                ) ;; end case 0
                (case 1 ;; "Create new layout"
                  then
                        (bind ?*selected-radio* 1)
                ) ;; end case 1
                (case 2 ;; "Test session"
                  then
                        (bind ?*selected-radio* 2)
                ) ;; end case 2
                (default (message-box "Fell through radio-box switch...") wxOK 1 0 "Error")
        );; end switch
) ;; end deffunction radio-box-callback


;; Button callback
(deffunction on-button-action (?id)
        (bind ?parent (window-get-parent ?id))
        (bind ?grandparent (window-get-parent ?parent))
        (switch (window-get-name ?id)
                (case "c1"
                        then
                          (if (= ?*selected-radio* 0)
                                then
                                  (second-frame)
                                  (window-show ?*frame-one* 0)
                          ) ;; end if
                          (if (= ?*selected-radio* 1)
                                then
                                  (message-box "This option is currently not available." wxOK 1 0 "Error")
                          ) ;; end if
                          (if (= ?*selected-radio* 2)
                                then
                                  (create-deck)
                                  (fifth-frame)
                                  (window-show ?*frame-one* 0)
                          ) ;; end if
                ) ;; end case c1
                (case "c2"
                        then
                          (if (eq ?*selected-list* "")
                                then
                                  ;;(bell)
                                  (message-box "You must make a selection to continue." wxOK 1 0 "Error")
                          ) ;; end if
                          (if (eq ?*selected-list* "Celtic Cross")
                                then
                                  (third-frame)
                                  (window-show ?*frame-two* 0)
                          ) ;; end if
                          (if (eq ?*selected-list* "Create new layout")
                                then
                                  (message-box "Sorry, this option is still not available." wxOK 1 0 "Error")
                          ) ;; end if
                          (if (eq ?*selected-list* "...")
                                then
```

```
                                        (message-box "More options will appear here when new layouts are created."
wxOK 1 0 "Error")
                              ) ;; end if
                              ;; set selection to "default" for next round
                              (bind ?*selected-list* "Celtic Cross")
                  ) ;; end case c2
                  (case "shuffle"
                            then
                              ;; clear the deck in order to create new deck with different order
                              (bind ?*the-deck* (create$))
                              (create-deck)
                              (bind ?*shuffled-times* (+ 1 ?*shuffled-times*))
                              (frame-set-status-text ?*frame-three* (format t "You have shuffled the deck %d time(s)."
?*shuffled-times*))
                  ) ;; end case shuffle
                  (case "c3"
                            then
                              (if (= ?*shuffled-times* 0)
                                      then
                                        ;;(bell)
                                        (message-box "You must shuffle the deck at least once." wxOK 1 0 "Error")
                                      else
                                        (if (= ?*rotate-value* 0)
                                                then
                                                  (deck-after-cut)
                                                else
                                                  (deck-after-cut-and-rotate)
                                        ) ;; end if
                                        (fourth-frame)
                                        (window-show ?*frame-three* 0)
                                        ;; clear shuffle-counter when leaving frame three
                                        (bind ?*shuffled-times* 0)
                                        ;; reset for next round
                                        (frame-set-status-text ?*frame-three* (format t "You have shuffled the deck
%d time(s)." ?*shuffled-times*))
                              ) ;; end if
                  ) ;; end case c3
                  (case "deal"
                            then
                              (begin-busy-cursor)
                              (text-window-set-insertion-point ?*text-win* (text-window-get-last-position ?*text-
win*))
                              (if (<= ?*count-posn* ?*max-posn*)
                                      then
                                        (get-next-card)
                                        (if (= ?*first-deal* 1)
                                                then
                                                  ;; want to fire defrule "next-card-to-display" here,
                                                  ;; because need to get info from rule first for first time deal is pressed
                                                  (run)
                                        ) ;; end if
                                        ;; display in card position:
                                        (text-window-write ?*display-posn* ?*display-card-name*)
                                        (text-window-write ?*display-posn* (format t "%n%s" ?*display-is-
reversed*))
                                        ;; display in side area:
                                        (text-window-write ?*text-win* (format t "Basic meaning of the card in
position %d:%n" ?*count-posn*))
                                        (text-window-write ?*text-win* (format t "  %s" ?*display-card-description*))
                                        (text-window-write ?*text-win* (format t "%n%n"))
                                        ;; do this only if deal button has already been pressed once
                                        (if (= ?*first-deal* 0)
                                                then
                                                  ;; want to fire defrule "next-card-to-display" here,
```

```
                        ;; in order to be ready for next time deal button is pressed
                        (run)
                        (bind ?*first-deal* 0)
                    ) ;; end if
                  else
                    (message-box "All card positions have been filled." wxOK 1 0 "Error")
              ) ;; end if
              (assert (time-to-update-posn  ?*count-posn*  ?*display-card-ID*))
              (run)
              (bind ?*display-is-reversed* "")
              (bind ?*count-posn* (+ ?*count-posn* 1))
              (end-busy-cursor)
        ) ;; end case deal
        (case "c4"
            then
              (if (= ?*reading-is-complete* 0)
                  then
                    (if (<= ?*count-posn* ?*max-posn*)
                        then
                          (message-box "You cannot continue until all the cards have been
dealt." wxOK 1 0 "Error")
                        else
                          ;; "reuse" this frame with displayed cards,
                          ;; but clear text-area before displaying combinations
                          (text-window-clear ?*text-win*)
                          ;; display combinations
                          ;; ......!!!!!!!!!!.................!!!!!!!
                          (text-window-write     ?*text-win*     (format     t     "Combination
meanings:%n"))
                          (text-window-write  ?*text-win*  (format  t  "   Display  combination
meanings here..."))
                          ;;(text-window-write  ?*text-win*  (format  t  "   %s"  ?*display-card-
description*))
                          (text-window-write ?*text-win* (format t "%n%n"))

                          (bind ?*reading-is-complete* 1)
                          (assert (layout-done))
                          (run)
                    ) ;; end if
                  else
                    ;; begin program again
                    (message-box "Resetting the program. Please wait." wxOK 1 0 )
                    (window-show ?*frame-four* 0)
                    (reset)
                    (first-frame)
              ) ;; end if
        ) ;; end c4
        (case "submit"
            then
              (text-window-set-insertion-point  ?*test-text-win*  (text-window-get-last-position  ?*test-
text-win*))
              (assert (next-card ?*test-num-string*))
              (if (member$ ?*test-num-string* ?*submit-attempts*)
                  then
                    (message-box "You have already tried that." wxOK 1 0 "Error")
                  else
                    ;; check whether input is valid
                    (if (member$ ?*test-num-string* ?*original-deck*)
                        then
                          (bind ?*submit-attempts* (insert$ ?*submit-attempts* 1 ?*test-num-
string*))
                          (if (= ?*first-deal* 1)
                              then
                                (run 1)
```

```
                                        ) ;; end if
                                        (if (<= ?*count-posn* ?*max-posn*)
                                            then
                                              ;; display in card position:
                                              (text-window-write ?*display-test-posn* ?*display-card-name*)
                                              (text-window-write ?*display-test-posn* (format t "%n%s" ?*display-is-reversed*))
                                              ;; display in side area:
                                              (text-window-write ?*test-text-win* (format t "Basic meaning of the card in position %d:%n" ?*count-posn*))
                                              (text-window-write ?*test-text-win* (format t "   %s" ?*display-card-description*))
                                              (text-window-write ?*test-text-win* (format t "%n%n"))
                                              ;; do this only if submit button has already been pressed once
                                              (if (= ?*first-deal* 0)
                                                  then
                                                    (run 1)
                                                    (bind ?*first-deal* 0)
                                              ) ;; end if
                                            else
                                              (message-box "All card positions have been filled." wxOK 1 0 "Error")
                                        ) ;; end if
                                        (bind ?*display-is-reversed* "")
                                        (bind ?*count-posn* (+ ?*count-posn* 1))
                                      else
                                        (message-box "Invalid input.  You must enter a number between 1 and 78." wxOK 1 0 "Error")
                              ) ;; end if
                    ) ;; end if
          ) ;; end case "submit"
          (case "c5"
                then
                  (if (= ?*reading-is-complete* 0)
                        then
                          (if (<= ?*count-posn* ?*max-posn*)
                                then
                                  (message-box "You cannot continue until all the cards have been dealt." wxOK 1 0 "Error")
                                else
                                  ;; "reuse" this frame with displayed cards,
                                  ;; but clear text-area before displaying combinations
                                  (text-window-clear ?*test-text-win*)
                                  ;; display combinations
                                  ;; ......!!!!!!!!!..................!!!!!!!
                                  (text-window-write ?*test-text-win* (format t "Combination meanings:%n"))
                                  (text-window-write ?*test-text-win* (format t "  %s" ?*display-card-description*))
                                  (text-window-write ?*test-text-win* (format t "%n%n"))

                                  (bind ?*reading-is-complete* 1)
                                  (assert (layout-done))
                                  (run)
                          ) ;; end if
                        else
                                  ;; begin program again
                                  (window-show ?*frame-five* 0)
                                  (reset)
                                  (first-frame)
                  ) ;; end if
          ) ;; end case c5
```

```
                    (case "q"
                              then
                               (message-box (format t "%nThank you for using T.R.Y. - Tarot Reading Yourself.%n")
wxOK 1 0 "Goodbye...")
                               (window-close ?grandparent)
                    ) ;; end case q
                    (default (message-box "Fell through button switch...") wxOK 1 0 "Error")
          ) ;; end switch
) ;; end deffunction on-button-action



;;-------------------------------------------------------------
;;-------------------------------------------------------------


;; Initializing the program
(deffunction app-on-init ()
          (unwatch all)
          (reset)
          (first-frame)
?*frame-one*) ;; end deffunction app-on-init
```

Appendix B – Combination rules for more of a kind

Ásar – Aces		
4	mikil orka og kraftur	abundance og energy and power
4	Óvæntir atburðir sem hafa í för með sér breytt viðhorf.	unexpected events that result in an altered attitude.
3	framfarir og auðlegð	progress and wealth
3	Listrænir hæfileikar opinberaðir	artistic talent revealed
2	skipt um heimili eða vinnu (breytingar varðandi heimili eða vinnu)	change with respect to the home or work
2	Ef rautt (Bikarar, Mynt) þá gifting. Ef svart (Stafir, Sverð) þá nýjar áætlanir eða von á samningum.	If Cups and Pentacles then marriage, if Wands and Swords then new plans or expect a contract.
Tvistar – Twos		
4	fundir eða samræður	meetings or converstations
3	endurskipulagning	reorganization
Þristar – Threes		
4	lausn, úrræði, festa	answers, solutions, determination
3	undirferli	intrigue, scheming, double-dealing
Fjarkar – Fours		
4	hvíld og friður	peace and quiet
3	framleiðsla og iðjusemi	production and diligence
Fimmur – Fives		
4	rifrildi og slagsmál	arguments and fights or brawls
3	regla og reglusemi	order
Sexur – Sixes		
4	friður	tranquility
3	ávinningur, framför	gain, progression, development
Sjöur – Sevens		
4	vonbrigði	disappointment
4	Barnsfæðing, listsköpun.	childbirth, artistic creation
3	samningar	negotiations
3	Fréttir af veikindum, áður ókunnur sjúkdómur spyrjandans kemur í ljós.	news of illness, the Querent's unbeknownst disease is revealed
2	óvissa og hið óvænta	uncertainty and the unexpected
2	Óvæntar gjafir.	unexpected gifts
Áttur – Eights		
4	nýjar upplýsingar, fréttir	new information, news
4	Aðskilnaður, atburðir sem hafa í för með sér aðskilnað.	separation, events that lead to separation
3	skemmtileg ferðalög	enjoyable travel
3	Hjónaband eða barneignir	marriage or childbirth
2	Breytt umhverfi, þekking og lærdómur.	change in environment, knowledge and learning
Níur – Nines		
4	aukin ábyrgð	extra responsibilities
4	Breytt lífsviðhorf eða aðstoð góðs vinar	change in philosophy on life or assistance of a good friend

3	bréf, tölvupóstur eða símbréf	letter, e-mail or fax
3	Velgengni, sérstaklega ef Sverð vantar.	success, especially if Nine of Swords is absent
2	Gjöf.	a gift
Tíur – Tens		
4	streita yfir of mikilli ábyrgð	stress over too much responsibiltiy
4	Óvæntar en heillavænlegar fréttir	unexpected good news
3	kaup og sala, viðskipti	sales and purchases, business
3	Skyndilegt ferðalag, fréttir að utan.	sudden journey, news from abroad
2	Flutningar.	transportation, moving
Gosar – Pages		
4	skóli og menntun, nýjar fyrirætlanir, nýjar hugmyndir	school and eduction, new plans or intentions, new ideas
4	Óvæntar fréttir af veikindum náins vinar.	unexpected news of a close friend's illness
3	börn í hópum	groups of children
3	Rifrildi	argument
2	leikir, skemmtanir eða íþróttaviðburðir	games, entertainment, sports events
2	Unglingar valda	
Riddarar – Knights		
4	her eða lögregla, yfirvald, skjótar aðgerðir	army or police, the authority, quick action
4	Lögregla eða dómstóll.	police or court of law
3	hópar fólks, samkvæmi og veislur	groups of people, parties and social events
3	Her, verkamenn eða hávær samsæti.	army, laborers or loud group of people
2	vinir úr fortíðinni	friends from the past
2	Leitað ráða hjá lækni eða lögfræðingi.	advice sought from a doctor or lawyer
Drottningar – Queens		
4	staðbundin stjórn t.d. bæjarstjórn eða stjórn ákveðins félags	local government, e.g. town council or board of a society or union
4	Hneyksli, rógburður eða rökræður.	scandal, slander, debate
3	hópar kvenna, klúbbar, valdamiklir vinir	groups of women, clubs, powerful friends
3	Samkvæmi.	party
2	kjaftasögur, baktal	gossip, slander
2	Einlæg vinátta.	sincere friendship
Kóngar – Kings		
4	ríkisstjórn eða fundir þar sem leiðtogar hittast	state or national government, or meetings of leaders
4	Mikill heiður, jafnvel opinber viðurkenning.	great honor, even public acknowledgement
3	stjórnmálasamtök eða félög, hópur karlmanna	political parties, groups of men
3	Mikilvægir samningar.	important contracts
2	viðskiptatækifæri	business opportunities
2	Fagmannlegar ráðleggingar.	professional advice

Major arcana	
óvenju mörg myndspil (major arcana)	örlögin taki yfirhöndina og að sá sem spáð er fyrir fái engu þar um breytt
unusually many major arcana cards	destiny takes charge and the Querent cannot change what is to be

Suits	
Þegar ein spilasamstæða (litur) er meira áberandi en önnur	♦ Stafir tákna atvinnu og viðskipti, ♦ Bikarar tákna ástarævintýri og félagslíf, ♦ Mynt táknar fjármál og ♦ Sverð tákna óeirðir, andlegar þjáningar og jafnvel veikindi.
when one suit is more dominant than others	♦ Wands represent employment and business, ♦ Cups represent love affairs and social life, ♦ Pentacles represent finances and ♦ Swords represent riots, unease, mental suffering and even illness.

Royals	
fleiri en eitt mannspil af sömu spilasamstæðu	Sama og hér að ofan nema áhrifin eru heldur meiri, t.d. ef öll mannspilin eru af Sverðasamstæðu, bendir það til þess að sá sem spáð er fyrir muni eiga í höggi við afbrýðisama og óvinveitta menn sem láta ekkert undan í árásum sínum á hann.
more than one royal of the same suit	Same as above except the effect is more intense, e.g. if all the royals are Swords, then that indicates the Querent will be faced with jealous and hostile people that will be relentless in their attacks.

Appendix C – Comparisons to other tarot reading programs

http://www.webpresspro.com/tarot/preparing_free_tarot_card_reading.htm
prepare for reading, relax + concentrate
graphics
shuffle with mouse-over => cards mover
correct layout and alignment for celtic cross
flops…
proceed to reading => shows individual cards (no layout anymore)
no whole picture
images from USGames
found no permission from USGames

http://www.facade.com/tarot/
input name and question
select deck, spread from dropdown (x2) celtic cross
checkboxes for reversals and significator w/reverse
all positions filled immediately
layout improperly aligned
center card is covered (not shown)
all descriptions shown simultaneously
can click on image – opens new window with (complete description?)
images of Universal Waite from USGames
found no permission from USGames

http://www.tarotreading.com/AF/login.asp :
- input name and question
- 3 card layout
-graphics (cards fanned out for selection)
- card is flipped: Universal Waite card by USGames is shown
- two sentences describe each card, followed by name
- found no permission from USGames

http://www.tarotpage.com/index.html
http://www.tarotpage.com/sampler/pick_smpl.html
displays detailed text for card in posn (same each time = sample)
images from USGames
FOUND permission from USGames

http://www.tarot.com/
the "official" site
images from USGames
FOUND permission from USGames – is part of USGames
awesome animation (Flash) extremely slow (not loading, just too much happening)
shows gap in fanned cards where have removed one
Celtic Cross

Appendix D – Design document 1

Appendix E – Detailed information about the tarot cards

Nr. 1 **Heiti:** Töframaðurinn (The Magician) **Táknræn merking:** Þetta fyrsta spil stokksins hefur tvöfalda merkingu. Sum Tarot-spil sýna fram á þetta með því að belti töframannsins er í líki orms sem bítur í hala sér svo hann myndar hring, en þannig er tákn þekkingar og tvöfeldni. Annars vegar er það tákn þess er leitar sannleikans, sameinningar hins mannlega og hins guðlega, valds skarpskyggni og ráðkænsku. Hins vegar táknar það misnotkun dulspeki, drottnun, svik, kænsku, óheiðarleika og lygar. **Merking:** Spil upphafs: frumkvæði, viljastyrkur, sjálfsmeðvitund, hæfileiki til þess að koma hugsun í framkvæmd, vilji til að taka áhættu og sigra, dulinn verndarkraftur, nám, nýr hæfileiki, ný vitneskja, nýtt starfssvið. **Gagnstæð merking:** Töf, óöryggi, fals, svik, misnotkun dulrænna hæfileika. **Í samhengi við önnur spil:** Þegar þetta spil er nálægt Djöflinum eða Lukkuhjólinu minnka áhrif þess og merkir hik. Ef það er nálægt Dauðanum, verða áhrif þess að engu.
Nr. 2 **Heiti:** Æðsti meyprestur (The High Priestess) **Táknræn merking:** Þetta spil er tákn hlutleysis. Hin kvenlegu tákn eru merki hugljómunar og andleika. Þetta spil táknar hið dulrafulla, hið dulda, þekkingu, leyndardóma, þögn, ókomna framtíð, dulin áhrif, heimspeki og lærdóm. **Merking:** Þetta spil er tákn dulspekináms, sköðunarhæfileika, spádómsgáfu, dultrúar og dulspeki. Það sýnir mikla lærdómsgleði, er gjarnan tákn kennarans og merkir opinberun sannleikans; andlegt og líkamlegt öryggi, tvíhyggju, leyndardóma og menningarlega þróun. **Gagnstæð merking:** Holdlegur munaður, yfirborðskenndur lærdómur. Öðrum atriðum er frestað þó þau séu ekki veikt. **Í samhengi við önnur spil:** Þegar þetta spil er við hlið Lukkuhjólsins og bæði spilin snúa rétt, þá eykur það styrk og jafnvægi h ins síðarnefnda og merkir ákveðna uppbót í lagadeilum eða hvers konar umsókn eða bæn, sem annars viðrist vonlaus. Ef spilið er gagnstætt eða öfugt, á sama stað merkir það óljósa framtíð, ötyggisleysi og mikið umrót. Ef það er öfugt við hlið Hófsemi merkir það myrkar framtíðarhorfur. Saman merkja þessi spil nær ósigrandi hindrun, rugling, máttleysi og hugleysi.
Nr. 3 **Heiti:** Keisaraynjan (The Empress) **Táknræn merking:** Lögmál sköpunarinnar, líf og frjósemi. Andstætt rökréttri hugsun og gáfum er hún tæakn viðkvæmni og innsæis. Hún er einnig tákn afkomenda og grósku og jafnvægis í náttúrunni. Hún færir listamanninum andagift og styrk til sköðunar, bóndanum færir hún grósku og velmegun og elskendum giftingu, oft boðar hún góða sambúð og börn. **Merking:** Mikill styrkur; eðilegur gangur mála og heillavænlegur; heimilisfriður og jafnvægi. Hið ljúfa líf. Hún boðar auð og arðvænlega giftingu. H'un táknar velerðarmanninn, boðar heilbrigði eftir veikindi. Hún er einnig tákn móðurástar, barna, listrænnar sköpunar, ræktunar og velmegunar.

Gagnstæð merking:
Munaður og leti, harðstjórn móður, ófriður á heimilinu; vanræksla hæfileika og eyðsla. Óhjákvæmilegaum atburði seinkar.
Í samhengi við önnur spil:
Þegar þetta spil er fyrir framan Töframanninn merkir það að góður árangur næst fyrir tilstilli ráðkænsku. Ef það er á undan Vagninum merkir það fjárhagslegan ávinning. Ef það er öfugt eða gagnstætt í sömu stöðu, merkir það seinkun, en áhrifin eru þau sömu.

Nr. 4
Heiti:
Keisarinn (The Emporer)
Táknræn merking:
Keisarinn er hinn karlmannlegi valdhafi. Hann stjórnar fjöldanum, er tákn yfirvalds, veraldlegs valds, raunsæis, rökréttrar hugsunar, vitsmuna og viljastyrks.
Merking:
Veraldleg völd og auður, forysta, staðfesta, sköpunargleði, gáfur, þekking byggð á reynslu og raunsæi fremur en tilfinningasemi.
Gagnstæð merking:
Tilfinningasemi, réttlæti, sennilega vorkunnsemi og miskunnsemi, blíða, fjárhagslegt tjón, barnsleg ástríða, þverrandi áhrif og völd.
Í samhengi við önnur spil:
Þegar þetta spil er á undan Veröldinni merkir það vopnahlé í stríði, sstutt en óstöðugt friðarástand. Snú það öfugt í sömu stöðu, merkir það innanlandsdeilur og jafnvel borgarastyrjöld, árekstur andstæðra skoðana einstaklingsins og missir veraldlegs valds og þjóðfélagsstöðu.

Nr. 5
Heiti:
Páfinn (The Hierophant)
Táknræn merking:
Merking þessa spils er andleg yfirráð og trúaruppfræðsla fjöldans. Páfinn er trúarleiðtogi og kennsla hans er bæði verkleg og munnleg.
Merking:
Dálæti á kirkjusiðum, fastheldni í trúarbrögðum og kenningum kirkjunnar. Vanabundin hollusta við ríkjandi þjóðfélagsaðstæður, þrá eftir félagslegri viðurkenningu, uppljóstrun leyndarmála og vísindaleg eða trúarleg köllun. Þetta spil er innblástur listamannsins.
Gagnstæð merking:
Trúgirni, seinvirkandi metnaðargirni, frjálshyggja, aðlögun að nýjum ugmyndum og nýbreytni; tál, svik og lygar.
Í samhengi við önnur spil:
Þegar Keisarinn og Páfinn koma saman merkir þaðtogstreitu hins veraldlega og hins andlega. Niðurstaðan fer eftir því hvort spilanna er á undan. Ef bæði eru öfug og Páfinn er fyrir framan Keisarann, merkir það fjárhagslegt tap vegna stolts og hugsanlega mistök vegna vanþekkingar. Ef Keisarinn er fyrir framan Páfann mun þetta fjárhagslega tap stafa af kunnáttu sem ekki er nýtt til hlítar og vanþekkingu.

Nr. 6
Heiti:
Elskendurnir (The Lovers)
Táknræn merking:
Ap vega og meta framtíðaráætlanir í ljósi góðs og ills, eða með tilliti til jákvæðra og neikvæðra áhrifa. Tvíhyggja og valfrelsi. Tvær tetgundir ásta, annars vegar órjúfanleg helg ást og hins vegar veraldleg ást. Jafnvægi andlegrar og líkamlegrar tilveru.
Merking:
Tímabundnar raunir. Val. Ást og hjónaband að eigin vali. Raunir. Siðferðilegt val, háð einlægni þess er velur. Aðdráttarafl, vinátta. Óvissa, hhik og óstöðugleiki. Glöggskyggni eða innsæi sem

óvænt leysir vanda.
Gagnstæð merking:
Rifrildi og skilnaður, slit trúlofunar eða hjónabands. Siðleysi, rangt val, kröfugirni. Utanaðkomandi afskipti, möguleg afskipti foreldra, ósættir vegna barns.
Í samhengi við önnur spil:
Þegar Elskendurnir eru á undan Vagninum merkir það uppljóstrun svika. Ef Vagninn er á undan Elskendunum þá merkir það að skyndileg brottför bindur endi á áhættufyrirtæki eða ástarsambandi. Ef Elskendurnir eru á undan Töframanninum merkir það hik og óöryggi, en ef hið fyrrnefnda snýr öfugt merkir það aðskilnað vegna óákveðni og tregðu.

Nr. 7
Heiti:
Vagninn (The Chariot)
Táknræn merking:
Styrkur og vald mnnsins á veraldlegu plani tilverunnar, vald hans yfir eigin náttúru og dýrseðli. Samspil veraldlegs og líkamlegs valds, samruni hins jákvæða og hins neikvæða. Réttvísi tempruð með miskunn.
Merking:
Þetta er spil mikilleika, velgengi fyrir tilstilli eigin atorku. Það merkir velgengi fyrir þá sem starf á sviði lista. Heilbrigði. Góðan árangur og virðingu. Skyndiferðalag og munað. Óvæntar fréttir. Gjörsigraða óvini.
Gagnstæð merking:
Aðvörun um að reyna að sigrast á dýrslegum hvötum. Harðlyndi, slæmar fréttir eða áætlanir sem ekki verða framkvæmdar, vanmetakennd, tillitsleysi, eigingirni.
Í samhengi við önnur spil:
Ef Máninn er á eftir þessu spili merkir það uppljóstrun leyndarmáls. Ef Vagninn er á eftir Mánanum merkir það veikindi, en ef Máninn er öfugur minnka áhrif hans.

Nr. 11
Heiti:
Réttvísi (Justice)
Táknræn merking:
Árangursrík sameining, jafnvægi. Nútímalegar kennsluaðferðir í stað gamalla kredda. Stjórnsemi. Réttlæti.
Merking:
Sanngirni, jafnvægi, rödd vitundarinnar, raun og endurhæfing, heiðarleiki, réttlæti, jákvæð lausn mennta- og lagamála. Líkamlegt og andlegt jafnvægi, víðsýni, virðing fyrir sannleika og heiðarleika, allt eftir siðgæðislegri stöðu einstaklingsins.
Gagnstæð merking:
Hræsni, óréttlæti, óréttlátur dómur, lagaflækjur, harka, óvæginn dómur um náungann.
Í samhengi við önnur spil:
Ef þetta spil er á undan Æðsta Meypresti, merkir það uppljósturn leyndarmáls sem hefur lagalegt gildi. Sé það á eftir hefur það sömu merkingu, en staðreyndin kemur aðeins í ljós vegna málaferla. Séu bæði öfug merkir það ósigur í málaferlum.

Nr. 9
Heiti:
Einsetumaðurinn (The Hermit)
Táknræn merking:
Hann er könnuður, óhræddur við að taka áhættur. Hann er einn á ferð, fikrar sig varlega áfram með hjálp stafsins og lýsir leiðina með ljóskeri. Hann er oft alskeggjaður, hempan er vernd visku, stafurinn styður hann og ljósið, sem margir telja ljós dulspekinnar, vísar honum rétta leið. Hann gengur beint af augum, lætur ekkert aftra sér, hægt og öruggt, gætir þess að ekkert slökkvi ljósið sitt, styrktur af guðlegum krafti í leit sinni að visku og sannleika.
Merking:

Merking þessa spils fer mjög eftir merkingu nærliggjandi spila. Það táknar að ekkert fæst án íhugunar og áætlana. Það merkir guðlega visku, guðlegan leiðbeinanda, innri rödd, uppljóstrun leyndarmáls, minnkandi hraða, þörf staðfestu og forsjálni. Gagnlegan fund með gáfuðum manni. Hugsanlegt ferðalag. Framkvæmd verkefnis eftir tafir.

Gagnstæð merking:

Þreytandi tafir eða mistök vegna kvíða. Óhóflegt hik og varkárni. Svik. Hindrun eðlilegrar þróunar mála vegna þrjósku.

Í samhengi við önnur spil:

Ef þetta spil er á unda Æðsta Meypresti, merkir það að tiltekið leyndarmál muni aldrei opinberast. Ef það er hins vegar á eftir Æðsta Meypresti mun sannleikurinn komast upp um síðir. Ef bæði spilin eru öfug merkir það seinkun en samt sem áður opinberun. Komi Einsetumaðurinn go Djöfullinn upp hlið vil hlið þá hafa þau mjög sterk áhrif á nálæg spil. Ef Djöfullinn er á undan Einsetumanninum, mun hann beina ljósi sínu að hverskonar lymsku og voldugum óvinum og hið góða verður hinu illa yfirsterkara. Ef Djöfullinn snýr öfugt, merkir það að þrátt fyrir hindranir muni réttlætið sigra.

Nr. 10

Heiti:

Lukkuhjólið (Wheel of Fortune)

Táknræn merking:

Frelsun frá hringrás endurfæðingar. Viska og jafnvægi. Óendanleiki þróunarinnar. Duttlungar örlaganna; lögmálið um athöfn og afleiðingu; hið óvænta snýr öllu á annan veg en áætlað var.

Merking:

Nýir viðburðir. Vandamál leysast við eðlilega þróun. Örlög, velgengi, heppni, óvænt gagnleg breyting, fjárhagslegur hagnaður af unnu verki.

Gagnstæð merking:

Hægfara, erfið breyting. Það fer mjög eftir nærliggjandi spilum hvort sú breyting er til góðs eða ills.

Í samhengi við önnur spil:

Nálægt Töframanninum, Einsetumanninum, Veröldinni eða Æðsta Meypresti er þetta spil mjög farsælt tákn, og með Vagninum merkir það mikilsverðan sigur. Ef Töframaðurinn er á eftir því merkir það ánægjulegar og spennandi breytingar, einkum hvað snertir atvinnu, bústað eða lífsviðhorf. Þegar Töframaðurinn er á undan mun þessi breyting eiga sér stað en ekki fyrr en að nokkrum tíma liðnum og mun smám saman leiða til velgengni. Ef Einsetumaðurinn er nálægt Lukkuhjólinu merkir það árangursríka uppgötvun. Þegar Æðsti Meyprestur er á eftir Lukkuhjólinu merkir það afrek á sviði lista eða vísinda, en ef röðinni er snúið við merkir það að spyrjandinn býr að hæfileikum sem enn hafa ekki fengið notið sín, en með heppni munu þeir koma í ljós og færa honum hamingju og fullkomnun.

Nr. 8

Heiti:

Styrkur (Strength)

Táknræn merking:

Siðferðilegur styrkur hreinlífis sem yfirbugar ástríður og auvirðilegar langanir. Andinn yfirbugar efnishyggju. Ást yfirbugar hatur, jákvæð öfl neikvæð og andleg ást hina veraldlegu.

Merking:

Sjálfsagi, styrkur og þol, viljastyrkur, siðferðislegur sigur, þolinmæði vinnur bug á fordómum, vald á kringumstæðum og lífi, ríkjandi réttlæti. Tækifæri bjóðast til að framkvæma áætlanir ef spyrjandinn er viljugur til að taka áhættur. Hugrekki. Andlegur styrkur í verladlegu andstreymi.

Gagnstæð merking:

Þetta spil hefur enga gagnstæða merkingu því það er sterkara en öll önnur tromp og heldur alltaf sömu merkingu. Þetta er því mjög eftirsókarvert spil.

Í samhengi við önnur spil:

Þeta spil hefur áhrif á spádóminn í heild. Ef Dauðinn er á eftir því merkir það alvarleg veikindi en

ekki dauða. Ef Dauðinn er á undan Styrk merkir það skjótan voveiflegan dauða, og ef bæði spilin eru öfug merkir það að naumlega er komist hjá slysi eða dauða. Ef Sstyrkur er á undan Vagninum merkir það árangur eftir nokkra fyrirhöfn. Ef Vagninn er á undan merkir það óbugandi styrk.
Nr. 12 **Heiti:** Hengdii maðurinn (The Hanged Man) **Táknræn merking:** Tákn þessa spils er fórn og æðruleysi en felur í sér þjáningu og erfiðleika. það táknar einnig aukinn andlegan kraft, sem byltir náttúrulögmálum og veldur miklum hugarfarsbreytingum. Peningarnir eru sagðir tákna fyrirlitningu á veraldlegum auðæfum. **Merking:** Einbeitni og ró eftir tímabil óvissu. Viska, staðfesta, hugboð, innsæi, yfirvegun, sjálfsfórn, andlegur friður og viska, dulræn spágeta. Merking þessa spils er ekki alltaf jákvæð, enda fer hún mjög eftir öðrum spilum. Það getur táknað afneitun, eyðileggingu og uppgjöf. **Gagnstæð merking:** Óljósar hugsjónir, tilgangslausar fórnir, eigingirni, sjálfselska, hræsni, óákveðni, efnishyggja, rangt hugboð, mont, veraldlegt ósjálfstæði; stundum merkir það jafnvel voveiflegan dauða. **Í samhengi við önnur spil:** Hengdi maðurinn og Hófsemi merkja saman hræsni og svikin loforð sem valda óöryggi. Hengdi maðurinn og Dauðinn merkja alltaf voveiflegan dauða, óhamingju eða fórnir. Ef Hengdi maðurinn er á undan Dauðanum merkir það að mikil fórn eykur styrk og vald spyrjandans. Ef Dauðinn er á undan merkir það oft tengsl, náin samskipti eða hjónaband og sýnir að annar aðilinn eða báðir verða að leggja meira af mörkum til að sambandið gangi vel.
Nr. 13 **Heiti:** Dauðinn (Death) **Táknræn merking:** Þetta spil er sérstaklega andlegs eðlis. það merkir lítilsvirðingu á hinu veraldlega, umbreytingar eog endurfæðingu sálarinnar. Það er ekki endilega tákn dauða, en getur merkt miskunnarlausan skyndilegan og næstum hörmulegan dauða gamla sjálfsins og endurfæðingu sálarinnar. Það táknar breytingu og getur undanfari þessarar breytingar oft verið áfall og eyðilegging. Þetta þýðir annaðhvort að um hugarfarsbreytingu er að ræða, eða mikilvæga listræna sköpun eftir harða baráttu, og jafnvel nýtt líf eða listræn verkefni. **Merking:** Áður fyrr var þetta spil lesið sem dauði konungs eða höfðingja. Það merkir endi einvhers sem boðar miklar breytingar, eyðileggingu sem leiðir til umbreytinga; hugarfarsbreytingu. Ef önnur spil hafa slæm áhrif á Dauðann getur það táknað áfall og veikindi eða sviptingu sjálfstæðis. **Gagnstæð merking:** Dauði eða hugleiðingar um dauðann. Hugleiðingar um dauða ástvinar. Sjálfskaparvíti. Stöðnun og leiðindi. Þvinguð breyting á einhverju sem hefði átt að þróast af sjálfu sér. **Í samhengi við önnur spil:** Með Turninum merkir Dauðinn landlægar hörmungar. Ef Turninn snýr öfugt og Dauðinn rétt mun naumlega sloppið frá ógæfu. Ef Dauðinn er á undan Veröldinni merkir það að alþjóðaleiðtogi deyr eða farsóttir herji á mannkynið. Ef Dauðinn er á undan Elskendunum merkir það hjónaskilnað eða slit trúlofunar. Ef Dauðinn snýr öfugt merkir það dauða maka.
Nr. 14 **Heiti:** Hófsemi (Temperance) **Táknræn merking:** Fjallstindarnir í fjarlægð eru sagðir tákn visku og skilnings, og vökvinn sem streymir úr einum bikar í annan er sagður tákna samruna anda og efnis, eða hreinsun sálarinnar, fyrir miskunn æðri máttarvalda. Vökvinn er hugsaður sem efni hugans, andleg fæða sem verkar gegn efnishyggju og

veldur hugljómun. Þetta spil er talið merkja umbreytingar á sama hátt og Dauðinn og fórnit til guðanna, hreinsun og styrk hinnar nýju sálar. það bendir til samruna gerandi og þolandi afla, samruna karlmennsku og hins kvenlega. Lækurinn sem engillinn stendur í að hluta, er sagður tákna fortíð, nútíð og framtíð.

Merking:
Hófsemi, sparnaður, sameining, aðlögun, tilslökun tveggja eða fleiri til að ná sameiginlegu takmarki, samvinna fremur en samkeppni. Velgengi vegna góðrar stjórnunar, líf, lífsþrek, andleg meðvitund og gleði. Einnig getur þetta spil merkt hjónaband og auð.

Gagnstæð merking:
Slæmur félagsskapur, hagsmunir rekast á, klaufaleg meðhöndlun tækifæra.

Í samhengi við önnur spil:
Ef Hófsemi er á undan Réttlæti merkir það langdregið dómsmál og réttlátan dóm. Ef Réttlæti er á undan merkir það að nokkur töf verður á þessu máli og jafnvel að vþí muni aldrei ljúka. Ef Hófsemi er öfug nálægt Réttlæti merkir það hverskonar hik eða óákveðni. þegar Elskendurnir eru með þessu spili táknar það óákveðni, hik og svik ástvinar.

Nr. 15
Heiti:
Djöfullinn (The Devil)

Táknræn merking:
Maðurinn í fjötrum hins illa sökum fávisku, ótta og hjátrúar. Tákn efnishyggju og yfirráða hins líkamlega; spil holdlegra fýsna. Andspyrna, ofsafengni og tilfinningaleysi. Mikil völd og slæmur ásetningur. Afl neikvæðra áhrifa.

Merking:
Óhjákvæmilegur atburður. Afleiðingu og áhrif hans má ráða af nálægum spilum. Freisting; ef ekki er fallið fyrir henni mun það leiða til góðs. Samviskulaus ánauð annars manns. Veikindi; ofsi; illa fenginn auður.

Gagnstæð merking:
Andleg lækning og vernd gegn hættum. Veikindum afstýrt eða lækning. Refsing. Jafnvel öfugt boðar þetta spil nær óviðráðanlega freistingu, sem veldur ógæfu og eyðileggingu, og munu fáir nógu sterkir til að standast hana.

Í samhengi við önnur spil:
Þegar Keisarinn kemur upp við hlið Djöfulsins og Djöfullinn er á undan merkir það einræði og óróleika í öllu landinu. Ef Keisarinn er á undan, þó sérlega ef Djöfullinn er öfugur, merkir það að þjóðhöfðingja eða öðrum háttsettum manni verði ógnað af illum utanaðkomandi öflum; að háttsettur maður verði viðriðinn hneyksli eða að ill öfl vinni gegn honum. Ef Djöfullinn er á undan Réttlæti merkir það að óréttlæti verði beitt, en ef Réttlæti er á undan merkir það að meintur glæpamaður er saklaus. Ef Páfinn og Djöfullinn koma saman vega þau á móti hvort öðru eða veikja merkingu hvors annars, Djöfullinn hefur þó meiri áhrif ef hann er á undan, merkingin fer oftast eftir nálægum spilum.

Nr. 16
Heiti:
Turninn (The Tower)

Táknræn merking:
Hörmungar og skyndilegar breytingar. Holdleg fýsn. Endir hinnar eilífu hringrásar Karma. Snúningur hjólsins stöðvast. Hugljómun og þekking. Sólskinið gæti táknað vitrun og að ímyndun og draumórar verði færð til rétts vegar til þess að byggja upp sstöðugan lífsgrundvöll. Það táknar stjórnarfarslegar breytingar og upprætingu spillingar.

Merking:
Óvænt áfall eða hörmungar, frelsun, lausn, breyting sem mun leiða til hamingju, uppræting sjálfselsku, breyting á lífsviðhorfi, venjur véfengdar, villandi metnaður upprættur, eignamissir, hugljómun.

Gagnstæð merking:

Þetta spil er áhrifameira þegar það er öfugt og merkir þá ánauð, togstreitu, sjálfskaparvíti, hindrun, undirgefni, fangelsun og atburði sem hefði mátt koma í veg fyrir. Langur tími mun líða þangað til hlutirnir snúast til betri vegar eftir áfall eða hörmungar.
Í samhengi við önnur spil:
Þegar Turninn er á undan Æðsta Meypresti merkir það hræðilega atburði á sviði trúmála. Þegar bæði spilin snúa öfugt merkir það venjulega heilaskemmdir, taugaáfall og líkamleg mein sem því fylgja.

Nr. 17
Heiti:
Stjarnan (The Star)
Táknræn merking:
Tákn fegurðar og eilífrar æsku. Stúlkan hellir vatni lífsins á landið, veröldina, og í vatnsstrauminn, alheimsvitundina. Hún er tákn ferskleika, vonar og ástar, lífs eftir dauðann, andlegrar ástar og hugljómunar, nýbreytni og hvatningar til óeigingjarnrar hjálpfýsi.
Merking:
Endurnýjarðu kraftur sem færir velmegun; heilbrigði og ástríkir vinir. Hugrekki, innblástur, andlegur styrkur, ást á mannkyninu, von og bjartsýni, gjafir frá óeigingjörnum vinum, traust loforð, staðföst trú, styrkur.
Gagnstæð merking:
Fölsk von og fölsk loforð, neikvæður hugsunarháttur, tafir og hik, afturhaldssemi, umburðarleysi.
Í samhengi við önnur spil:
Ef Stjarnan er á undan Keisaraynjunni merkir það hamingjusama, skipulagða og friðsama tilveru. Ef Töframaðurinn er á eftir Stjörnunni eykur það góð áhrif á nýtt viðfangsefeni eða listræna sköpun. Ef Keisaraynjan er á undan Stjörnunni eykur það öryggi og bendir til velgengni sem fæst með metnaði og mikilli vinnu.

Nr. 18
Heiti:
Máninn (The Moon)
Táknræn merking:
Tunglið er sagt endurspegla undirmeðvitundina, og er þetta spil talið tákn dulvitundar, undirmeðvitundar, draumheima og ímyndunar. Það táknar innsæi, skynvillu, drauma, dulræn öfl og óstöðugleika.
Merking:
Þetta spil getur táknað óhamingju, fer merking þess þó nokkuð eftir merkingu nærliggjandi spila. Merking þess getur verið vantrú, óstöðugleiki í hvers konar viðskiptum, innsæi, sjálfsblekking, leyndir óvinir, vinasvik, hroki og dulin öfund, hætta og erfiðleikar ástvina.
Gagnstæð merking:
Þegar þetta spil snýr öfugt minnka áhrif þess. Það getur merkt frið og hvíld eftir harða baráttu, taugaspennu eða kvíða. Það ber með sér hugsunina "taktu það sem þú vild, en borgaðu fyrst".
Í samhengi við önnur spil:
Þegar Turninn, Djöfullinn, Dauði eða Réttlæti er nálgt þessu spili hefur það slæm áhrif. Ef Réttlæti er á undan merkir það lygar og óréttláta sakargift, og ef Dauðinn er nálægur gæti það táknað sjálfsmorð vegna rógburðar. Aðeins ef bæði spilin eru öfug eru áhrifin minni, sannleikurinn kemur í ljós og öllum hættum er afstýrt. Þegar Máninn er á undan Turninum merkir það að svik og sjálfsblekking leiða til eyðileggingar og smánar. Ef Máninn er á undan Elskendunum táknar það sambandsslit elskenda vegna blekkingar og lyga. Eða uppgötvun sjálfsblekkingar í ástamálum sem hefur sömu afleiðingar.

Nr. 19
Heiti:
Sólin (The Sun)
Táknræn merking:
Þetta spil er tákn áreiðanleika og kemur í veg fyrir sjálfsblekkingu. Það er tákn hins bjart og hlýja

ljóss dagsins, sakleysis, hreinleika, styrks og hugrekkis, endurnýjunar og jákvæðra viðhorfa.
Merking:
Góður árangur næst á öllum sviðum, þó sérstaklega á sviði lista og vísinda. Fagnaðarfundir, arðbært hjónaband, hvíld frá venjulegum störfum, lífsgleði, fjárhagsleg velmegun, takmark næst, vernd, námi lýkur, heilbrigði, gleði og ávinningur.
Gagnstæð merking:
Merking þessa spils er eins í meginatriðum þó það snúi öfugt, en eitthvað veikir það þó áhrif þess.
Í samhengi við önnur spil:
Ef þetta spil er á undan Dauðanum, merkir það framkvæmd verkefnis, lok einhvers eða dauði leiðir til velgengni. Hagnaður eða réttlæting hlýst við dauða einhvers. Með Turninum merkir það að þegar all er til lykta leitt hafa óvæntar hörmungar mikinn hagnað eða ávinning í för með sér.

Nr. 20
Heiti:
Dómur (Judgement)
Táknræn merking:
Þetta spil er tákn hins eilífa, endurfæðingar við dauða, endalok og upphaf verunnar, hina eilífu hringrás tilveru mannsins.
Merking:
Lausn á vanda og fullkomnun. Andleg vakning sem gæti verið undanfari frægðar og velgengni. Ánægja yfir vel unnu starfi. Breyting, endurnýjun, heppileg áhrif, breytt lífsviiðhorf, hugarfarsbreyting. Endanleg niðurstaða fengin af því sem á undan er gengið.
Gagnstæð merking:
Þetta spil er áhfrifslaust ef það er umkringt veraldlegum spilum eins og Lukkuhjólinu, Djöflinum eða Töframanninum. Ef það er öfugt en ekki við hlið fyrrnefndra spila merkir það tímabundna frægð eða óvissu, heilsutap eða eignamissi, biturleika eða veikleika, ótta við dauðann, eða ótta og biturleika í elli.
Í samhengi við önnur spil:
(sjá líka undir gagnstæða merkingu)
Þetta er mjög áhrifamikið spil. Þegar það er við hlið Vagnsins merkir það frægð og sigur. Ef öfugt, þá snýst merking þess einnig. Ef Dómurinn er á undan Vagninum öfugum merkir það að velgengnin er tímabundin og hættu á ofmetnaði. Ef Einsetumaðurinn er á eftir þessu spili táknar það að velgengni mun alltaf vera á andlegu sviði, eða frægð eftir dauða. Ef Einsetumaðurinn snýr öfugt merkir það að heillavænlegar uppgötvanir opinberist.

Nr. 21
Heiti:
Veröldin (The World)
Táknræn merking:
Dansmeyjan bendir til gleði og hamingu, spegillinn er tengdur “sistrum” Isis (þ.e. málmhringla – notuð í athöfnum til heiðurs Isis), blómsveigurinn og kórónan benda til gleðifagnaðar og viðurkenningar hins útvalda sem hefur öðlast sannleikann. Levi segir að þessi blómsveigur, sem er tákn sannlekans, hafi meira við nám en málmkeðjur. Þetta er síðasta spilið í röðinni og er tákn endaloka, fullkomnun þeirrar samstöðuhringrásar sem hófst með Töframanninum og vísaði leiðina gegnum sigur, freistingar, snörur og nýja lífreeynslu, og réð noðurlögum hins veraldlega sjálfs og hverskonar blekkinga. Það bendir til endurnýjaðrar vitundar. Það stendur semlokaniðurstaða og er viðurkenning fyrir góðan árangur.
Merking:
Leit að fullkomnun. Mikill veraldlegur eða andlegur ávinningur. Dulfræðilegur, veraldlegur eða andlegur sigur og umbun. Lærdómur. Fullkomnuð hamingja, gleði, fagnaður, hreyfing, ferðalag til fjarlægra landa, happasæl endalok tiltekinna mála, lok tiltekins tímabils. Tímamót.
Gagnstæð merking:
Stöðnun, fórn ástar fyrir veraldleg gæði, ótti við breytingar, afneitun þess lærdóms sem lífreynslan veitir, það að vera háður eignum sínum og umhverfi. Ótti gagnvart hinu óþekkta, fallvaltleiki.

Í samhengi við önnur spil: Ef Sólin er við hliðina á þessu spili merkir það stórkostlega tilfinningalega reynslu, eða gleði, ást og samkomulag. Ef það er á eftir Hengda manninum merkir það að sigur hlýst af ástarfórn. Ef Veröldin er á undan merkir það að fórn sem gæti haft í för með sér sorg og aðskilnað.
Nr. 0 **Heiti:** Fíflið (The Fool) **Táknræn merking:** Í egypskri trú er krókódíllinn talið heilagt dýr og alsjáandi, og er það trú margra að krókódíllinn sem glefsra í fætur Fíflsins merki að Fíflið búi yfir guðlegri visku og að hann sé alls ómeðvitaður um veröldina og sé að hefja líftíðarferð sína, búinn andlegum styrk sem muni vernda hann gegn öllum veraldlegum hættum. Ferðalag hans tekur aldrei enda og hann er viðbúinn því að takast á við hvað sem er til þess að nema leyndardóma lífsins. Hann verður að taka ákvarðanir, yfirgefa, aðlagast, taka til sín eða kasta frá sér í þeim tilgangi að öðlast fullkomnun. Siðfræðingar sem skrifuðu um þetta spil fyrr á öldum töldu að hann væri með syndir og ódæðisverk alheimsins í pokanum sínum. **Merking:** Þörf á íhugun varðandi mjög mikilvæga ákvörðun. Reiði guðs. Leit að lífsreynslu undir andlegri leiðsögn. Gleði. Að auki felur merking þessa spils í sér stjórnleysi, mannleg mistök, óvænta byltingu fastmótaðra hugmynda um raunveruleikann, léttúð, hirðuleysi, kæruleysi og ferðalög. **Gagnstæð merking:** Röng ákvörðun tekin eða hindrun framfara. **Í samhengi við önnur spil:** Þar sem þetta spil er mjög andlegs eðlis heldur það merkingu sinni eingöngu þegar önnur spil á sama sviði eru við hliðina á því, sterk veraldleg spil s.s. Lukkuhjólið og Djöfullinn draga mjög úr áhrifum þess. Ef Fíflið er á eftir Einsetumanninum merkir það að upp kemst um leyndarmál og verður það vinsælt umræðuefni. Ef Fíflið er á undan merkir það að ekkert muni vitnast um leyndarmálið. Við hliðina á Vagninum merkir það þýðingarmiklar fréttir og þegar Fíflið er við hliðina á Sólinni merkir það að eitthvað óvænt muni koma upp sem hafi reglu, þægindi og hamingju í för með sér.

Merking minor arcana

- Sverð eru táknræn um andlegt uppnám, baráttu, deilur, ófrið, missir og áhyggjur, prófraun, samkeppni og einmanaleika.
- Bikarar tákna ástarmál, gleði, barneignir, heimili, velgengi, vináttu og mannleg samskipti.
- Stafir eru tengdir varanlegum hlutun, s.s. friði, andlegu jafnt sem veraldlegu öryggi, listrænum hæfileikum, gáfum, stöðu og stétt, viðskiptum, nýjum möguleikum, löngum ferðalögum, sigri og framför.
- Mynt tákna fjármál, gróða, óvæntan hagnað, t.d. arf eða happdrættisvinning, og allt sem er veraldlegt en forgengilegt.

Cups:

Bikarar:	**Kærleikur, góður árangur, hamingja, öryggi, félagslyndi, allsnægtir.**
Kóngur	Embættismaður, kirkjunnar maður eða lögfræðingur. Hann er góðviljaður, skilningsríkur, viðkvæmur og skapandi: góður eiginmaður. Hann er hugsjónamaður og vel kunnugur veraldlegum hliðum mannlífsins. Hann gætir eigin hagsmuna fyrst og fremst en er traustur talsmaður skjólstæðinga sinna.
Drottning	Ástkona, sú sem allir dá, hún er mjög listræn, rómantísk, hefur dulræna hæfileika, er muög viðkvæm og dreymin. Þetta spil getur einnig táknað góðan félaga, ást og hamingjuríkt hjónaband.
Riddari	Einhleypur maður, hann er virðulegur, listrænn, hugsjónamaður og getur verið elskhugi eða keppinautur í ástarmálum. Einnig getur þetta spil táknað ánægjulega heimsókn eða tilboð, skilaboð, framfarir, boð eða fréttir.
Gosi	Fréttir, skilaboð, fæðing barns, nýjar viðskptaaðferðir. Viljugur, hjálpsamur og ráðagóður unglingur, sem er hæglátur, listrænn og íhugull að eðlisfari.
Ás	Þetta spil merkir tilfinningasemi, hugljómun, ást, gleði og andlega vellíðan eða lífsfyllingu. Ásinn getur táknað ást, giftingu og þungun. Þetta spil er táknrænt fyrir barnshafandi konu og m erkir trú, allsnægtir, skapandi hæfileika, sköpun, gleðifréttir, góðan félagsskap. Þegar þetta spil er nálægt öðrum spilum sem tákna ást og k´rleik merkir það annað hvort sanna ást eða ástarsamband sem leiðir til mikillar hamingju.
II	Félagsskapur, ástarsamband, vinátta, fyrirgefning, samkomulag, samningsgerð, auðæfi, takmörkun.
III	Tilfinninganæmi, vinátta, ástir, lífsfylling, hamingja í hjónabandi, nautn, hamingjuríkur árangur, bati, hamingjuóskir og gleði.
IV	Þetta spil sýnir fram á utanaðkomandi afskpti af ástarmálum, óvinveitt áhrif, áónægja með aðstæður og umhverfi, sem leiðir til endurmats á veraldlegum gæðum og nýrra áhugamála. Þegar neikvæð spil hafa áhrif á þetta spil merkir það leiðindi og vanmetakennd.
V	Arfur, gjöf, breytt lífsviðhorf, missir, eftirsjá (varðandi val og athafnir), leit að nýjum möguleikum við missir einhvers eða lok tímabils. Vonbrigði í hjónabandi, eða sambandsslit.
VI	Þetta spil táknar togstreitu og sættir, árangur liðinna atburða og fyrri áhrifa kemur nú í ljós. Uphaf einhvers sem á rætur sínar að rekja til fortíðarinnar – raunir liðins tíma bera ávöxt í nútíðinni. Endurfundir við gamlan vin eða elskhuga, gamall draumur rætist. Þegar þetta spil er undir áhrifum af neikvæðum spilum merkir það að sá sem spáð er fyrir lifir um of í fortíðinni.
VII	Þörf á umhugsun og gætni áður en mikilvæg ákvörðun er tekin um mjög mikilvægt mál. Ímyndun, draumórar og íhugun. Listrænn innblástur, dulræn reynsla, hið óþekkta, eitthvað óvænt sem viðkemur andlegri eða listrænni starsemi. Ef áhrif annarra spila eru neikvæð merkir þetta spil að spyrjandinn hafi of mörg áhugamál og að hann ætti að snúa sér óskiptur að einu þeirra.
VIII	Fortíðin kvödd. Ný reynsla, nýir vinir, ný áhugamál, vikið frá stað eða ástandi. Vonbrigði eða uppljóstrun sem orsakar breytt lífsviðhorf.
IX	Óskaspilið. Það merkir uppfyllingu allra óska, gjafmildi, góðvild, heilbrigði og stöðugleika bæði andlegan og veraldlegan.
X	Þetta spil merkir eignir, virðingu, frægði og upphefð, ást vina og endanlega velgengni. Það táknar störf í þágu almennings, hugarró og velmegun.

Wands:

Stafir:	Störf, eignir, styrkur, listir, nýjar framkvæmdir, stöðugleiki og árangur erfiðis.
Kóngur	Karlmaður, dökkur yfirlitum, heiðarlegur, staðfastur, gjöfull og sterekur, hugsanlega fjölskyldumaður, gefur góð ráð og sýnir skilning. Þetta spil merkir einnig arðbær viðskipti og óvæntan arf.
Drottning	Kona, dökk yfirlitum, vingjarnleg, gjöful og þolinmóð, heimilisleg, hún er óháð öðrum. Verndari og er vinur í raun. Þetta spil merkir einnig árangursríkar framkvæmdir í viðskiptum og nýja möguleika.
Riddari	Ungur maður, dökkur yfirlitum. Þetta spil merkir innsæi, einning flutning milli landa. Það merkir flótta, breyttan íverustað, brottför, baráttu og keppinaut í viðskiptum. Það getur einnig táknað gott fjármálavit.
Gosi	Hugsanlega boðberi milli elskenda: póstur, boðberi eða áhrifagjarn unglingur (karl eða kona). Góðar fréttir, uppörvandi fréttir um viðskipti og fjármál. Þegar þetta spil kemur upp við hlið konungs, riddara eða gosa merkir það virðingu eða góðar fréttir af barni.
Ás	Ásinn merkir ný áform, nýja möguleika, listrænan innblástur, visku, nýbreytni, sköpun, auðæfi, nýjar framkvæmdir, giftingu og barneignir, ávöxtun auðs.
II	Menntun, hugreekki og frumkvæði sem ekkert fær hindrað, háleitar fyrirætlanir, þolinmæði, réttlæti, viska, aðstoð frá vísindamönnum, styrkur, vald og velgengni.
III	Félagsskapur sem færir auð og frægð. Einnig getur þetta spil merkt framtakssemi, góð áhrif, aðstoð frá voldugum vinum, frumlegar hugmyndir, mikla trú, mikið vald á tjáningu hugmynda, laun fyrir vel unnin störf, listamann eða uppfinningamann sem gerir draum að veruleika, viðskiptafélag, eða viðurkenningu fyrir störf unnin af andagift.
IV	Þetta er óskaspil uppfinnningamannsins eða listamannsins. Það sýnir veröld hugmynda sem tengjast fegurð fullgerðra listaverka, einnig hlé á framkvæmdum, friðsælar stundir fjarri kröfum þjóðfélagsins, ástir, fjölskyldulíf og jafnvægi.
V	Óöryggi í ástum og lífsbarátta: ástin sigrar alla erfiðleika. Þörf á miklum andlegum styrk til að forðast ásigur og uppgjöf. Hugsanlega merkir það að spyrjandinn sigrast á erfiðleikum, og síðan breytingar til batnaðar eftir mikið stríð.
VI	Vonir og óskir rætast í sambandi við atvinnu, góðar fréttir. Sigur, stjórnkænska vegur gegn mótlæti, settu marki náð. Ánægja.
VII	Arðbær atvinna, þörf á auknum styrk og ákveðni til að ná góðum árangri. Hindrun ýtt til hliðar af staðfestu og miklu hugrekki. Þetta spil merkir einnig útbreiðslu þekkingar, ritstörf, kennslu: þetta er spil kennarans.
VIII	Þetta spil sýnir að n ú sé tími til kominn að snúa sér að nýjum verkefnum, lok rólegs tímabils, takmark í nánd, ferðalag, flýti, hreyfingu, hraðboð, utanlandsferð eða útlend sambönd – örvar ástarinnar.
IX	Þetta spil er jafnvel betra en nían í Bikurum, "óskaspilið". Þetta er magnaðasta spilið í stokknum og sýnir örugga og óhagganlega stöðu. Það merkir góðan árangur, einkum á sviði lista eða í starfi. Ráðleggingar fengnar eða gefnar, útbreðsla, yfirveguð dómgreind, heiðarleiki, heilindi, styrkur í vörn, óbugandi styrkur: styrkur og heilindi sigrast á öllum erfiðleikum.
X	Sameining. Stórviðskipti, nýir samningar, nýjar fyrirætlanir eða utanlandsferð, ferð til ókunnugs staðar. Einnig getur þetta spil táknað létti eða erfiðleika sem verða að engu. Ef önnur spil hafa neikvæð áhrif á þetta spil merkir það misnotkun valds, óhóflega sigurgleði, þröngsýni og íhaldssemi.

Pentacles:

Mynt:	**Fjármál, málaferli og veraldleg gæði.**
Kóngur	Karlmaður, ljós yfirlitum, óviss staða, hugsanlega ómenntaður en glöggur, þolinmóður, vitur og tryggur, stærðfræðilega sinnaður. Óhlutdrægur, getur verið tillitslaus, hægur en ákveðinn, staðfastur og verkár. Góður faðir en slæmur óvinur.
Drottning	Kona, ljós yfirlitum, hugsanlega sjálfstæð og óháð. Hún er veraldlega sinnuð, hagsýn og lífsglöð. Þetta spil bendir til fjáröflunar, auðs og fjárhagsábyrgðar.
Riddari	Ungur maður, nýr kunningi, jafnvel ástarævintýri. Hann er veraldlega sinnaður, styður íhaldsemi í þjófélaginu, gamaldags, staðfastur, heiðarlegur. Þetta spil getur einnig táknað eitthvað málefni eða erfiðisvinnu sem hefst með mikilli þolinmæði.
Gosi	Þetta spil getur táknað skilaboð, góðar fréttir eða bréf með peningum í. Þetta er ungur maður (eða kona), mjög ágjarn og veraldlega sinnaður, en iðinn. Þetta spil merkir einnig virðingu fyrir menntun, nýjar skoðanir, nýjar hugmyndir, hugsjónir og lærdóm.
Ás	Ásinn sýnir framkvæmdir í fjáröflunarskyni. Gjafir, arfur, viðurkenning veraldlegrar fegurðar, veraldleg þægindi, gull, velmegun, óhóf, eignadýrkun, tilfinningasemi, þol, fullkomið öryggi.
II	Fallvaltleiki. Þörf á kunnáttu til að ná settu marki, yfirvofandi breytingar, jafnvægi þrátt fyrir röskun, nýjar fyrirætlanir, ferðalög, sambönd, góður árangur á tilteknu sviði, tilgangi náð fyrir atbeina hæfileika, væntanlegar gjafir.
III	Fagmennska og iðn, góður námsárangur eða erfið vinna og stöðug áreynsla. Þetta spil getur einnig tákna að útþensla í viðskptum er tímabær, fagkunnátta, fullkomnun í starfi, aðstoð, samvinna, orðstír fyrir getu, virðing og upphefð.
IV	Fagmennska, veraldlegur fengur. Þetta spil bendir til hindrana og fjárhagsörðugleika, ný byrjun fyrirtækis, arfs – og merkja um þunglyndi ef áhrif annarra spila eru neikvæð.
V	"Neyðin kennir naktri konu að spinna." Ef skynsemin lýtur vilja hjartans leiðir það til sorgar. Kulnuð ást, þvingun, andlegur einmanaleiki. Ef áhrif annarra spila eru neikvæð merkir það heimþrá, öryggisleysi eða tilgangsleysi í lífinu.
VI	Þetta er skemmtanaspil stokksins. Það merkir aðstoð æðri máttarvalda eða hjálp góðrar manneskju, réttmæt laun, fjárhagslegt öryggi, meðaumkun, góðvild og gjafmildi. Ef neikvæð áhrif verka á þetta spil, bendir það til málaferla.
VII	Gjöf eða óvæntur auður. Seinagangur er tímasóun. Þetta er viðvörun um að nauðsynlegt sé að vinna stöðugt að því sem á upphaf sitt í fortíðinni til þess að árangur náist. Þetta spil bendir til vöruskipta, lánsfjár og gróða, en þó með nokkurri seinkun. þetta spil getur einnig táknað mögulegan maka eða að atburðir sem áttu sér stað í fortíðinni bera ávöxt á ný.
VIII	Breytingar sem hafa í för með sér veraldlegan ávinning. Hæfileikaspilið, kraftur, það bendir til þess að hæfileikar nýtist í starfi eða góð laun fáist fyrir kunnáttu eða hæfileika. Væntanlegt tilboð um starf á nýju sviði, nýbreytni, laun fyrir unnin störf.
IX	Mikil og góð laun fyrir dugnað, fjárhagsleg velmegun. Viðurkenning fyrir vel unnin störf. Fullkomnun einhvers sem hefur í för með sér viðurkenningu og þægindi, mögulega merkir þetta spil einnig lausn á vanda.
X	Heimilið og fjölskyldan. Kaup og sala á húseign, stofnun fjölskyldu, íhaldssemi og fastmótuð lífsviðhorf, arfur, heimanmundur o.s.frv.

Swords:

Sverð:	**Andleg barátta, samkeppni, stríð, deilur, fyrirhöfn og gróska, einmanaleiki.**
Kóngur	Dökkur maður yfirlitum, valdamikill eða hámenntaður með sterka siðgæðiskennd. Hann er harður dómari, er hugsanlega lögfræðingur eða embættismaður. Hann getur verið brautryðjandi á einhverju sviði, en er sennilega tengdur ríkisstjórn, her eða lögfræði.
Drottning	Kona, dökk yfirlitum, oft valdamikil. Hún er sjálfstæð og sterk. Þetta er spil ekkjunnar, það ber með sér einmanaleika og sorg. Hún er góður vinur ern slæmur óvinur. Þetta spil merkir einnig baráttu hins andlega gegn h inu veraldlega, eða getur sýnt fram á smámunasemi.
Riddari	Ungur maður (eða kona) dökkur yfirlitum, bráðlyndur, jafnvel illgjarn, kemur inn í líf spyrjandans til góðs eða ills. Þetta spil táknar einnig hviklynda manneskju sem nýtur sín best þegar erfiðleikar steðja að, eða styrk í vörn og hugrekki í stríði. Þetta spil getur táknað yfirvofandi erfiðleika. Ef önnur spil sesm merkja veikindi eru nálæg, þá getur þetta spil táknað skurðlækninn.
Gosi	Þetta spil sýnir innri baráttu sem er afleiðing óréttlætis í fortíðinni, mögulega frá barnæsku, vegna tillitslauss keppinauts í viðskiptum, eða vegna svikullar manneskju sem fer með slúður eða njósnar. Einnig táknar þetta spil endurskoðun, eða tilboð í viðskiptum.
Ás	Tákn styrkleika í mótlæti og erfiðleikum, þetta er sverð Damoklesar eða tákn guðdómlegs réttlætis. Þetta spil sýnir fram á réttmæt laun og/eða upphaf óhjákvæmilegra atburða sem munu breyta miklu í lífi spyrjandans. Þetta spil er tákn mikil styrkleika hvort sem er í þágu góðs eða ills, ástar eða haturs. Þetta er spil sigurvegarans.
II	Þetta spil merkir jafnvægi góðs og ills, aðstoð vina í mótlæti og andlegt jafnvægi. Gott hlýst af illu. Ef nálæg spil hafa neikvæð áhrif á þetta spil, merkir það dugleysi og óákveðni.
III	Þetta spil merkir sambandsslit, vinslit eða hjónaskilnað, lengri eða skemmri aðskilnað. Þetta spil táknar alltaf erfiðleika, t.d. áhyggjur og óhamingju vegna ótryggs ástarsambands, en bendir þó alltaf til jákvæðra breytinga, að eitthvað nýtt kemur í stað þess gamla sem hefur verið rutt úr vegi, "myrkasta stundin fyrir sólaruppkomu".
IV	Þetta spil merkir frið eftir miklar raunir eða stríð. Það merkir einnig stjórnsemi eftir mikið strit og óreglu, málamiðlun, dulspeki og trúarlega íhugun, hvíld. Þetta spil getur einning táknað sjúkrahúsvist, afturbata eða rólegt tímabil sem varið er til íhugunar og sjálfskoðunar.
V	Spyrjandinn verður að læra að taka hinu óhjákvæmilega og viðurkenna ósigur, tryggja grundvöll lífs síns með lítillæti eða breyta lífsviðhorfum sínum. Þetta spil getur táknað að spyrjandinn sleppi naumlega frá slysi eða jafnvel hótanir, en venjulega merkir það viðurkenningu takmarkana áður en stefnan er tekin upp á við og áfram.
VI	Þetta spil merkir ferðalag eða flótta, venjulega merkir það flutning í þægilegra umhverfi að stöðubreytingu. Það merkir einnig freið eftir tímabundið álag eða áhyggjur. Það getur einnig táknað heimsókn erlends vinar eða að spyrjandinn taki áhættu og sigri.
VII	Þetta spil bendir á nauðsyn þess að sýnahógværð og undirgefni. Íhugunar er þörf og ber að varast hvers konar ágengni eða frekju. Það getur táknað veika von en einnig hugsanlega slys á ferðalagi eða í íþróttum.
VIII	Þetta spil merkir að samningum muni brátt verða rift og álagi létt, en til þess að komast hjá gagnrýni er nauðsynlegt að viðhalda þolinmæði og láta ekkert fram hjá sér fara. Hugsanlega leikur vafi á hvaða stefnu beri að taka, en ábendingar er von.
IX	Þetta spil getur táknað erfiða ákvörðun sem hefur í för með sér þjáningar og fórn eða jafnvel dauða náins ættingja. Það merkir sorg og einmanaleika. Ef áhirf annarra spila eru neikvæð getur það táknað slys eða missi.
X	Merking þessa spils er ýmist einstaklingsbundin eða almenn, þ.e. bundin allri þjóðinni. Það getur táknað efnahagsörðugleika eða almennt erfiðleika í þjóðmálum. Einnig merkir það heiðarleika, upphaf draumsýna, blekkingu, og ef áhrif annarra spila eru neikvæð táknar það óvænta erfiðleika, sársauka og óhamingju. EF RÉTTLÆTI EÐA DJÖFULLINN ERU NÁLÆGT GETUR ÞAÐ TÁKNAÐ FANGELSUN. Þetta spil táknar einnig von og trú eftir langvarandi þunglyndi.

Nokkur almenn atriði um merkingartengsl í Major Arcana:

- Þegar áhrifamikið spil snýr öfugt og er á undan öðru sterku spili sem snýr rétt, þá verða þau bæði áhrifslaus. Til dæmis hafa Keisaraynjan og Djöfullinn, Djöfullinn og Stjarnan, og Sólin og Turninn slík áhrif á hvert annað.
- Réttlæti er veraldlegt spil og nær því ekki að sameinast Keisaraynjunni, sama máli gegnir um Veröldina, en merking þess er fullkomlega andlegs eðligs. Einsetumaðurinn og Veröldin eru líka ósamræmanleg spil vegna þess að merkingartákn Einsetumannsins eru of takmörkuð maðað við merkingartákn Veraldarinnar. Sama gildir um Veröldina og Töframanninn.
- Þegar Réttlæti er á undan Hengda manninum merkir það að mildi og umburðarlyndi skuli sýnd fremur en slétt og fellt réttlæti. Dómur er andlegt spil og lýtur að vitsmunalegum málum, svo að það á ekki vel við veraldleg spil eins og t.d. Lukkuhjólið og Djöfullinn. Djöfullinn er tákn óhjákvæmilegrar atburðarásar. Æðsti meyprestur er tákn sjálfsmeðvitundar og styrkir merkingu spilanna í kring, og merkir oft nýja möguleika og breytingar til batnaðar.
- Styrkur er eitt áhrifamesta spilið í stokknum og hefur áhrif á spádóminn í heild. Það gerir Stjörnuna áhrifslausa og er jafnvel máttugra en Djöfullinn. Turninn er annað spil sem takmarkar merkingu annarra spila. Veröldin er eina spilið sem getur dregið úr áhrifum Turnsins, með því að gera merkingu þess algilda fremur sen sértæka, þ.e. með því að beina merkingu þess að alheiminum, þá merkja þessi tvö spil saman landlægar farsóttir eða hörmungar. Aftur á móti eykur Styrkur áhrif þess og Djöfullinn eykur neikvæð áhrif þess.

Tvö eða fleiri spil sömu tegundar

- Ef óvenju mörg myndspil (major arcana) eru samankomin í einni spá sýnir það að örlögin taki yfirhöndina og að sá sem spáð er fyrir fái enu þar um breytt. Þegar ein spilasamstæða (litur) er meira áberandi en önnur, ræður hún aðalinntaki spádómsins, þannig að Stafir tákna atvinnu og viðskipti, Bikarar tákna ástarævintýri og félagslíf, Mynt táknar fjármál og Sverð tákna óeirðir, andlegar þjáningar og jafnvel veikindi.
- Sama gildir ef fleiri en eitt mannspil af sömu spilasamstæðu koma saman í einni spá, en áhrifin eru heldur meiri. Sem dæmi má nefna, að ef öll mannspilin eru af Sverðasamstæðu, bendir það til þess að sá sem spáð er fyriri muni eiga í höggi við afbrýðisama og óvinveitta menn sem láta ekkert undan í árásum sínum á hann.
- Tvö eða þrjú spil af sömu tegund auka einnig áhrif merkingar hvers annars. Til dæmis merkja þrír – jafnvel fjórir gosar, lög og rétt, lögreglu hneyksli eða fangelsun.

Mismunandi tengsl Minor Arcana

4 ásar	Óvæntir atburðir sem hafa í för með sér breytt viðhorf.
3 ásar	Listrænir hæfileikar opinberaðir
2 ásar	Ef rautt (Bikarar, Mynt) þá gifting. Ef svart (Stafir, Sverð) þá nýjar áætlanir eða von á samningum.
4 kóngar	Mikill heiður, jafnvel opinber viðurkenning.
3 kóngar	Mikilvægir samningar.
2 kóngar	Fagmannlegar ráðleggingar.
4 drottningar	Hneyksli, rógburður eða rökræður.
3 drottningar	Samkvæmi.
2 drottningar	Einlæg vinátta.
4 riddarar	Lögregla eða dómstóll.
3 riddarar	Her, verkamenn eða hávær samsæti.
2 riddarar	Leitað ráða hjá lækni eða lögfræðingi.
4 gosar	Óvæntar fréttir af veikindum náins vinar.
3 gosar	Rifrildi
2 gosar	Unglingar valda
4 tíur	Óvæntar en heillavænlegar fréttir
3 tíur	Skyndilegt ferðalag, fréttir að utan.
2 tíur	Flutningar.
4 níur	Breytt lífsviðhorf eða aðstoð góðs vinar
3 níur	Velgengni, sérstaklega ef Sverð vantar.
2 níur	Gjöf.
4 áttur	Aðskilnaður, atburðir sem hafa í för með sér aðskilnað.
3 áttur	Hjónaband eða barneignir
2 áttur	Breytt umhverfi, þekking og lærdómur.
4 sjöur	Barnsfæðing, listsköpun.
3 sjöur	Fréttir af veikindum, áður ókunnur sjúkdómur spyrjandans kemur í ljós.
2 sjöur	Óvæntar gjafir.

Aðferðir við lestur Tarot spila

Keltneski krossinn

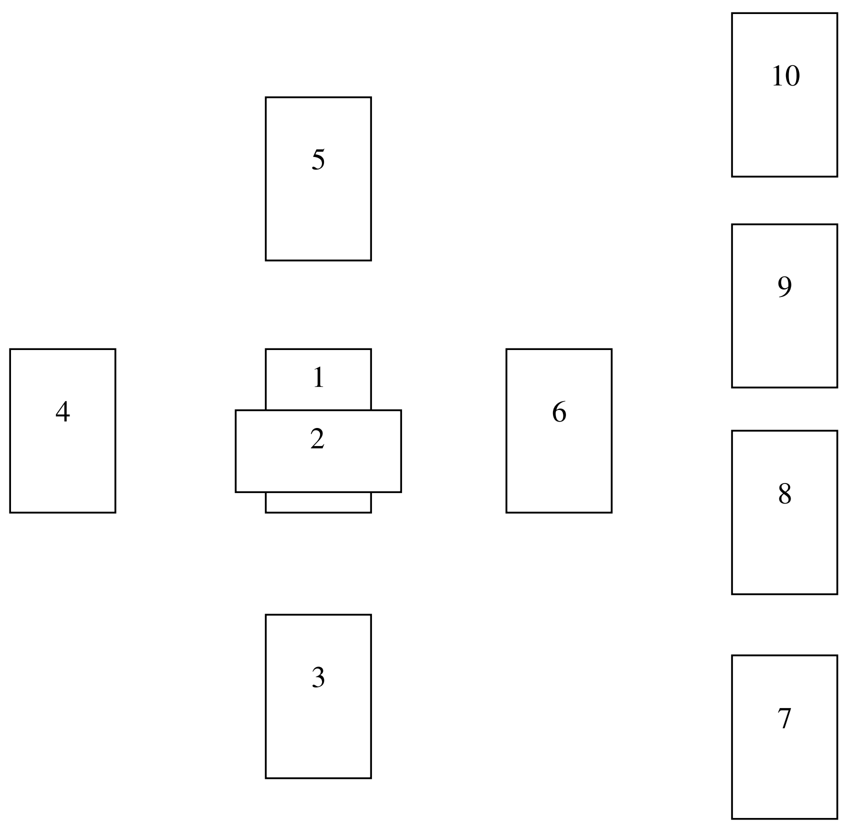
Veldu mannspil sem á að tákna spyrjandann. Þetta spil spyrjandans, sem við köllum S, er lagt á borðið þannig að það snúi upp. Stokkaðu spilin og láttu spyrjandann skipta þeim og um leið einbeita sér að því sem honum er efst í huga. Hann má segja það upphátt eða bara hugsa það. Síðan skaltu taka spilin saman og hvolfa efsta spilinu á spil S.

1. Þetta spil hylur hann og táknar þau áhrif sem verka á spurningu spyrjandans.
2. Spil númer tvö er lagt í kross yfir það fyrsta. Þetta spil krossar hann og táknar mótstöðu, eða öfl sem vinna gegn spyrjandanum, til góðs eða ills.
3. Spil númer 3 er lagt fyrir neðan spil S og táknar það sem á undan er gengið, allt það sem þegar hefur gerst ´i sambandi við spurningu spyrjandans.
4. Spil númer 4 er lagt á vinstri hlið spils S, eða fyrir aftan hann. Þetta spil sýnir áhrif sem þegar hafa liðið hjá eða eru að líða hjá.
5. Spil númer 5 er lagt fyrir ofan spil S til að kóróna hann og táknar það sem getur gerst.
6. Spil númer sex er lagt hægra megin við spil S eða fyrir framan hann og táknar það sem í vændum er og sýnir áhrif sem verka á hann í náinni framtíð.
   Nú hefurðu lagt krossinn. á hægri hlið krossins skaltu leggja fjögur spil lóðrétt og byrja á neðsta spilinu,
7. sem er númer 7 og táknar áhyggjur spyrjandans.
8. Spil númer 8 táknar umhverfi hans, viðhorf fjölskyldunnar eða vina.
9. Spil númer 9 táknar vonir spyrjandans.
10. Spil númer 10 sýnir útkomuna.

Öll spilin skulu lesin með tilliti til spurningarinnar. Ef flest spilanna eru myndspil merkir það að forlögin nái yfirhöndinni og spyrjandinn fái þar engu breytt. Ef spil númer 10 er myndspil merkir það einnig að spyrjandinn ráði engu um úrslit málsins, að þau séu í höndum annars manns eða yfir valds.

The Celtic Cross Spread (from the Gendron Tarot booklet, by Melanie Gendron, U.S. Games Systems, 1997)

1. Present position, represents querent.
2. Immediate influence, crosses querent.
3. Destiny, goal.
4. Distant past influence.
5. Recent past events.
6. Future.
7. Querent's perspective, attitude.
8. Environmental factors, influence of others upon querent.
9. Ideal hope, inner desire.
10. Summary, final result



Appendix F – Rule combinations III

Legend:
"A" indicates that the card is right-side up
"B" indicates that the card is reversed
No letter means that the direction is irrelevant

Order does not matter:
Rule no.1-2 The Magician + The Devil & The Devil + The Magician the influence of the Magician become less and mean hesitation (Þegar þetta spil er nálægt Djöflinum eða Lukkuhjólinu minnka áhrif þess og merkir hik.)
Rule no.3-4 The Magician + The Wheel of Fortune & The Wheel of Fortune + The Magician the influence of the Magician become less and mean hesitation (Þegar þetta spil er nálægt Djöflinum eða Lukkuhjólinu minnka áhrif þess og merkir hik.)
Rule no.5-6 The Magician + Death & Death + The Magician the influence of the Magician becomes irrelevant (Ef það er nálægt Dauðanum, verða áhrif þess að engu.)
Rule no.7-8 The High Priestess A+ The Wheel of Fortune A & The Wheel of Fortune A+ The High Priestess A the strength and equilibrium of The Wheel of Fortune increases and means a certain benefit in legal matters or any kind of application or prayer that otherwise seems hopeless. (Þegar þetta spil er við hlið Lukkuhjólsins og bæði spilin snúa rétt, þá eykur það styrk og jafnvægi h ins síðarnefnda og merkir ákveðna uppbót í lagadeilum eða hvers konar umsókn eða bæn, sem annars viðrist vonlaus.)
Rule no.9-10 The High Priestess B+ The Wheel of Fortune & The Wheel of Fortune + The High Priestess B (Ef spilið er gagnstætt eða öfugt, á sama stað merkir það óljósa framtíð, öryggisleysi og mikið umrót.)
Rule no.11-12 The High Priestess B+ Temperance & Temperance + The High Priestess B (Ef það er öfugt við hlið Hófsemi merkir það myrkar framtíðarhorfur)

Rule no.13-14 The High Priestess+ Temperance & Temperance + The High Priestess (Saman merkja þessi spil nær ósigrandi hindrun, rugling, máttleysi og hugleysi.)
Rule no.41-42 The Magician + The Wheel of Fortune & The Wheel of Fortune + The Magician (Nálægt Töframanninum er þetta spil mjög farsælt tákn) (Þegar Töframaðurinn er á undan mun þessi breyting eiga sér stað en ekki fyrr en að nokkrum tíma liðnum og mun smám saman leiða til velgengni)
Rule no.43-44 The Wheel of Fortune + The Hermit & The Hermit + The Wheel of Fortune (Nálægt Einsetumanninum er þetta spil mjög farsælt tákn) (Ef Einsetumaðurinn er nálægt Lukkuhjólinu merkir það árangursríka uppgötvun.)
Rule no.47-48 The Wheel of Fortune + The World & The World + The Wheel of Fortune (Nálægt Veröldinni er þetta spil mjög farsælt tákn)
Rule no.49-50 The Wheel of Fortune + The Chariot & The Chariot + The Wheel of Fortune (með Vagninum merkir það mikilsverðan sigur)
Rule no.54-55 The Hanged Man + Temperance & Temperance + The Hanged Man (Hengdi maðurinn og Hófsemi merkja saman hræsni og svikin loforð sem valda óöryggi.)
Rule no.58-59 Death + The Tower (not A+B) & The Tower + Death (not B+A) (Með Turninum merkir Dauðinn landlægar hörmungar.)
Rule no.60-61 Death A+ The Tower B & The Tower B + Death A (Ef Turninn snýr öfugt og Dauðinn rétt mun naumlega sloppið frá ógæfu.
Rule no.67-68

Temperance B + Justice
&
Justice + Temperance B
(Ef Hófsemi er öfug nálægt Réttlæti merkir það hverskonar hik eða óákveðni.)

Rule no.69-70
Temperance+ The Lovers
&
The Lovers + Temperance
(þegar Elskendurnir eru með þessu spili táknar það óákveðni, hik og svik ástvinar.)

Rule no.83-84
The Moon + The Tower | The Devil | Death | Justice
&
The Tower | The Devil | Death | Justice + The Moon
(Þegar Turninn, Djöfullinn, Dauði eða Réttlæti er nálgt þessu spili hefur það slæm áhrif.)

Rule no.86-87
The Moon + Death (not B+B)
&
Death + The Moon (not B+B)
(ef Dauðinn er nálægur gæti það táknað sjálfsmorð vegna rógburðar.)

Rule no.88-89
The Moon B + Death B
&
Death B + The Moon B
(Aðeins ef bæði spilin eru öfug eru áhrifin minni, sannleikurinn kemur í ljós og öllum hættum er afstýrt.)

Rule no.93-94
The Sun + The Tower
&
The Tower + The Sun
(Með Turninum merkir það að þegar all er til lykta leitt hafa óvæntar hörmungar mikinn hagnað eða ávinning í för með sér.)

Rule no.96-97
Judgement A + The Chariot A
&
The Chariot + Judgement A
(Þegar það er við hlið Vagnsins merkir það frægð og sigur.)

Rule no.98-99
Judgement B + The Chariot A
&
The Chariot + Judgement B
(Ef öfugt, þá snýst merking þess einnig, þ.e. ófrægð og ósigur)

Rule no.103-104
Judgement B + The Wheel of Fortune | The Devil | The Magician
&

The Wheel of Fortune | The Devil | The Magician + Judgement B (Þetta spil er áhfrifslaust ef það er umkringt veraldlegum spilum eins og Lukkuhjólinu, Djöflinum eða Töframanninum.)
Rule no.105-106 Judgement B + !The Wheel of Fortune | !The Devil | !The Magician & !The Wheel of Fortune | !The Devil | !The Magician + Judgement B (Ef það er öfugt en ekki við hlið fyrrnefndra spila merkir það tímabundna frægð eða óvissu, heilsutap eða eignamissi, biturleika eða veikleika, ótta við dauðann, eða ótta og biturleika í elli.)
Rule no.107-108 The World + The Sun & The Sun + The World (Ef Sólin er við hliðina á þessu spili merkir það stórkostlega tilfinningalega reynslu, eða gleði, ást og samkomulag.)
Rule no.112-113 The Fool + The Wheel of Fortune | The Devil & The Wheel of Fortune | The Devil + The Fool (sterk veraldleg spil s.s. Lukkuhjólið og Djöfullinn draga mjög úr áhrifum Fíflsins.)
Rule no.116-117 The Fool + The Chariot & The Chariot + The Fool (Við hliðina á Vagninum merkir það þýðingarmiklar fréttir)
Rule no.118-119 The Fool + The Sun & The Sun + The Fool (og þegar Fíflið er við hliðina á Sólinni merkir það að eitthvað óvænt muni koma upp sem hafi reglu, þægindi og hamingju í för með sér.)

Order matters:
Rule no.7 The High Priestess A+ The Wheel of Fortune A the strength and equilibrium of The Wheel of Fortune increases and means a certain benefit in legal matters or any kind of application or prayer that otherwise seems hopeless. (Þegar þetta spil er við hlið Lukkuhjólsins og bæði spilin snúa rétt, þá eykur það styrk og jafnvægi h ins síðarnefnda og merkir ákveðna uppbót í lagadeilum eða hvers konar umsókn eða bæn, sem annars viðrist vonlaus.)
Rule no.8 The Wheel of Fortune A+ The High Priestess A the strength and equilibrium of The Wheel of Fortune increases and means a certain benefit in legal matters or any kind of application or prayer that otherwise seems hopeless. (Þegar þetta spil er við hlið Lukkuhjólsins og bæði spilin snúa rétt, þá eykur það styrk og jafnvægi h ins síðarnefnda og merkir ákveðna uppbót í lagadeilum eða hvers konar umsókn eða bæn, sem annars viðrist vonlaus.)
Rule no.9 The High Priestess B+ The Wheel of Fortune (Ef spilið er gagnstætt eða öfugt, á sama stað merkir það óljósa framtíð, öryggisleysi og mikið umrót.)
Rule no.10 The Wheel of Fortune + The High Priestess B (Ef spilið er gagnstætt eða öfugt, á sama stað merkir það óljósa framtíð, öryggisleysi og mikið umrót.)
Rule no. 15 The Empress + The Magician (Þegar þetta spil er fyrir framan Töframanninn merkir það að góður árangur næst fyrir tilstilli ráðkænsku.)
Rule no.16 The Empress A+ The Chariot (Ef það er á undan Vagninum merkir það fjárhagslegan ávinning)
Rule no.17 The Empress B+ The Chariot (Ef það er öfugt eða gagnstætt í sömu stöðu, merkir það seinkun, en áhrifin eru þau sömu, þ.e. fjárhagslegur ávinningur)
Rule no. 18 The Emporer A + The World (Þegar þetta spil er á undan Veröldinni merkir það vopnahlé í stríði, sstutt en óstöðugt friðarástand.)
Rule no.19

The Emporer B + The World (Snú það öfugt í sömu stöðu, merkir það innanlandsdeilur og jafnvel borgarastyrjöld, árekstur andstæðra skoðana einstaklingsins og missir veraldlegs valds og þjóðfélagsstöðu.)
Rule no.20 The Emporer + The Hierophant (Þegar Keisarinn og Páfinn koma saman merkir það togstreitu hins veraldlega og hins andlega. Niðurstaðan fer eftir því hvort spilanna er á undan. Ef Keisarinn er fyrir framan Páfann mun þetta fjárhagslega tap stafa af kunnáttu sem ekki er nýtt til hlítar og vanþekkingu.)
Rule no.21 The Hierophant B + The Emporer B (Þegar Keisarinn og Páfinn koma saman merkir það togstreitu hins veraldlega og hins andlega. Niðurstaðan fer eftir því hvort spilanna er á undan. Ef bæði eru öfug og Páfinn er fyrir framan Keisarann, merkir það fjárhagslegt tap vegna stolts og hugsanlega mistök vegna vanþekkingar.)
Rule no.22 The Lovers + The Chariot (Þegar Elskendurnir eru á undan Vagninum merkir það uppljóstrun svika)
Rule no.23 The Chariot + The Lovers (Ef Vagninn er á undan Elskendunum þá merkir það að skyndileg brottför bindur endi á áhættufyrirtæki eða ástarsambandi)
Rule no.24 The Lovers A + The Magician (Ef Elskendurnir eru á undan Töframanninum merkir það hik og óöryggi)
Rule no.25 The Lovers B + The Magician (ef hið fyrrnefnda snýr öfugt merkir það aðskilnað vegna óákveðni og tregðu)
Rule no.26 The Chariot + The Moon (Ef Máninn er á eftir þessu spili merkir það uppljóstrun leyndarmáls)
Rule no.27 The Moon A + The Chariot (Ef Vagninn er á eftir Mánanum merkir það veikindi)
Rule no.28 The Moon B + The Chariot (en ef Máninn er öfugur minnka áhrif hans.)
Rule no.29 Strength (Þetta spil hefur áhrif á spádóminn í heild)

Rule no.30 Strength + Death (Ef Dauðinn er á eftir því merkir það alvarleg veikindi en ekki dauða.)
Rule no.31 Death + Strength (not B+B) (Ef Dauðinn er á undan Styrk merkir það skjótan voveiflegan dauða)
Rule no.32 Death B + Strength B (ef bæði spilin eru öfug merkir það að naumlega er komist hjá slysi eða dauða)
Rule no.33 Strength + The Chariot (Ef Styrkur er á undan Vagninum merkir það árangur eftir nokkra fyrirhöfn)
Rule no.34 The Chariot + Strength (Ef Vagninn er á undan merkir það óbugandi styrk)
Rule no.35 The Hermit + The High Priestess (Ef þetta spil er á unda Æðsta Meypresti, merkir það að tiltekið leyndarmál muni aldrei opinberast)
Rule no.36 The High Priestess + The Hermit (not B+B) (Ef það er hins vegar á eftir Æðsta Meypresti mun sannleikurinn komast upp um síðir)
Rule no.37 The High Priestess B + The Hermit B (Ef bæði spilin eru öfug merkir það seinkun en samt sem áður opinberun)
Rule no.38 The Hermit + The Devil (Komi Einsetumaðurinn og Djöfullinn upp hlið við hlið þá hafa þau mjög sterk áhrif á nálæg spil)
Rule no.39 The Devil A + The Hermit (Komi Einsetumaðurinn og Djöfullinn upp hlið við hlið þá hafa þau mjög sterk áhrif á nálæg spil) Ef Djöfullinn er á undan Einsetumanninum, mun hann beina ljósi sínu að hverskonar lymsku og voldugum óvinum og hið góða verður hinu illa yfirsterkara
Rule no.40 The Devil B + The Hermit (Komi Einsetumaðurinn og Djöfullinn upp hlið við hlið þá hafa þau mjög sterk áhrif á nálæg spil) (Ef Djöfullinn snýr öfugt, merkir það að þrátt fyrir hindranir muni réttlætið sigra.)
Rule no.45 The Wheel of Fortune + The High Priestess

(Nálægt Æðsta Meypresti er þetta spil mjög farsælt tákn) (Þegar Æðsti Meyprestur er á eftir Lukkuhjólinu merkir það afrek á sviði lista eða vísinda)
Rule no.46 The High Priestess + The Wheel of Fortune (Nálægt Æðsta Meypresti er þetta spil mjög farsælt tákn) (ef röðinni er snúið við merkir það að spyrjandinn býr að hæfileikum sem enn hafa ekki fengið notið sín, en með heppni munu þeir koma í ljós og færa honum hamingju og fullkomnun)
Rule no.51 Justice + The High Priestess (Ef þetta spil er á undan Æðsta Meypresti, merkir það uppljóstrun leyndarmáls sem hefur lagalegt gildi)
Rule no.52 The High Priestess + Justice (not B+B) (Sé það á eftir hefur það sömu merkingu, en staðreyndin kemur aðeins í ljós vegna málaferla.)
Rule no.53 The High Priestess B + Justice B (Séu bæði öfug merkir það ósigur í málaferlum.)
Rule no.56 The Hanged Man + Death (Hengdi maðurinn og Dauðinn merkja alltaf voveiflegan dauða, óhamingju eða fórnir. Ef Hengdi maðurinn er á undan Dauðanum merkir það að mikil fórn eykur styrk og vald spyrjandans)
Rule no.57 Death + The Hanged Man (Hengdi maðurinn og Dauðinn merkja alltaf voveiflegan dauða, óhamingju eða fórnir. Ef Dauðinn er á undan merkir það oft tengsl, náin samskipti eða hjónaband og sýnir að annar aðilinn eða báðir verða að leggja meira af mörkum til að sambandið gangi vel.)
Rule no.62 Death + The World (Ef Dauðinn er á undan Veröldinni merkir það að alþjóðaleiðtogi deyr eða farsóttir herji á mannkynið.)
Rule no.63 Death A + The Lovers (Ef Dauðinn er á undan Elskendunum merkir það hjónaskilnað eða slit trúlofunar.)
Rule no.64 Death B + The Lovers (Ef Dauðinn snýr öfugt merkir það dauða maka.)
Rule no.65 Temperance A + Justice (Ef Hófsemi er á undan Réttlæti merkir það langdregið dómsmál og réttlátan dóm.)
Rule no.66 Justice + Temperance A

(Ef Réttlæti er á undan merkir það að nokkur töf verður á þessu máli og jafnvel að vþí muni aldrei ljúka.)
Rule no.71 The Devil + The Emperor (Þegar Keisarinn kemur upp við hlið Djöfulsins og Djöfullinn er á undan merkir það einræði og óróleika í öllu landinu.)
Rule no.72-73 The Emperor + The Devil (Devil A or Devil B) (Ef Keisarinn er á undan, þó sérlega ef Djöfullinn er öfugur, merkir það að þjóðhöfðingja eða öðrum háttsettum manni verði ógnað af illum utanaðkomandi öflum; að háttsettur maður verði viðriðinn hneyksli eða að ill öfl vinni gegn honum.)
Rule no.74 The Devil + Justice (Ef Djöfullinn er á undan Réttlæti merkir það að óréttlæti verði beitt)
Rule no.75 Justice + The Devil (en ef Réttlæti er á undan merkir það að meintur glæpamaður er saklaus.)
Rule no .76 The Hierophant + The Devil (Ef Páfinn og Djöfullinn koma saman vega þau á móti hvort öðru eða veikja merkingu hvors annars)
Rule no.77 The Devil + The Hierophant (Ef Páfinn og Djöfullinn koma saman vega þau á móti hvort öðru eða veikja merkingu hvors annars, Djöfullinn hefur þó meiri áhrif ef hann er á undan, merkingin fer oftast eftir nálægum spilum.)
Rule no.78 The Tower + The High Priestess (not B+B) (Þegar Turninn er á undan Æðsta Meypresti merkir það hræðilega atburði á sviði trúmála.)
Rule no.79 The Tower B + The High Priestess B (Þegar bæði spilin snúa öfugt merkir það venjulega heilaskemmdir, taugaáfall og líkamleg mein sem því fylgja.)
Rule no.80 The Star + The Empress (Ef Stjarnan er á undan Keisaraynjunni merkir það hamingjusama, skipulagða og friðsama tilveru.)
Rule no.81 The Empress + The Star (Ef Keisaraynjan er á undan Stjörnunni eykur það öryggi og bendir til velgengni sem fæst með metnaði og mikilli vinnu.)
Rule no.82 The Star + The Magician

(Ef Töframaðurinn er á eftir Stjörnunni eykur það góð áhrif á nýtt viðfangsefeni eða listræna sköpun.)
Rule no.85 Justice + The Moon (Ef Réttlæti er á undan merkir það lygar og óréttláta sakargift)
Rule no.90 The Moon + The Tower (Þegar Máninn er á undan Turninum merkir það að svik og sjálfsblekking leiða til eyðileggingar og smánar.)
Rule no.91 The Moon + The Lovers (Ef Máninn er á undan Elskendunum táknar það sambandsslit elskenda vegna blekkingar og lyga. Eða uppgötvun sjálfsblekkingar í ástamálum sem hefur sömu afleiðingar.)
Rule no.92 The Sun + Death (Ef þetta spil er á undan Dauðanum, merkir það framkvæmd verkefnis, lok einhvers eða dauði leiðir til velgengni. Hagnaður eða réttlæting hlýst við dauða einhvers.)
Rule no.95 Judgement (Þetta er mjög áhrifamikið spil.)
Rule no.96 Judgement A + The Chariot A (Þegar það er við hlið Vagnsins merkir það frægð og sigur.)
Rule no.97 The Chariot + Judgement A (Þegar það er við hlið Vagnsins merkir það frægð og sigur.)
Rule no.98 Judgement B + The Chariot A (Ef öfugt, þá snýst merking þess einnig, þ.e. ófrægð og ósigur)
Rule no.99 The Chariot + Judgement B (Ef öfugt, þá snýst merking þess einnig, þ.e. ófrægð og ósigur)
Rule no.100 Judgement + The Chariot B (Ef Dómurinn er á undan Vagninum öfugum merkir það að velgengnin er tímabundin og hættu á ofmetnaði.)
Rule no.101 Judgement + The Hermit A (Ef Einsetumaðurinn er á eftir þessu spili táknar það að velgengni mun alltaf vera á andlegu sviði,

eða frægð eftir dauða.)
Rule no.102 Judgement + The Hermit B (Ef Einsetumaðurinn snýr öfugt merkir það að heillavænlegar uppgötvanir opinberist.)
Rule no.109 The Hanged Man + The World (Ef það er á eftir Hengda manninum merkir það að sigur hlýst af ástarfórn.)
Rule no.110 The World + The Hanged Man (Ef Veröldin er á undan merkir það að fórn sem gæti haft í för með sér sorg og aðskilnað.)
Rule no.111 The Fool (Þar sem þetta spil er mjög andlegs eðlis heldur það merkingu sinni eingöngu þegar önnur spil á sama sviði eru við hliðina á því)
Rule no.114 The Hermit + The Fool (Ef Fíflið er á eftir Einsetumanninum merkir það að upp kemst um leyndarmál og verður það vinsælt umræðuefni.)
Rule no.115 The Fool + The Hermit (Ef Fíflið er á undan merkir það að ekkert muni vitnast um leyndarmálið.)

Appendix G – Structural document

```
(deffacts	card-facts
	"The card facts contain basic information about each individual card that will be
	used for interepretation.
		The ID is for locating the card to retrieve the basic information that
		influences its interpretation.
		The card will either have a name or a suit and num, depending on whether
		it is a major or minor arcana card.
		The major attribute, the reversed attribute and the specialCases attribute are
		either set to true or false (T/F).
		If the specialCases is set to true, then the identifyCases will have references
		to descriptions of the special cases of interpretation.
		Finally, the describeCard provides the description of the individual card."

		(card
			ID			1
			name			"The Magician"
			suit			;; null?
			num			;; null?
			major			T	;;maybe should have seperate card
		groups, major +  minor ?, because of different structures?, but how will the
		rules cope then? no, probably not good idea
			reversed		F	;;perhaps this should be seperate??
		don´t want to save the fact over and over again do I?
			specialCases		T
			identifyCases		;;numbers to ID which special cases apply
			describeCard		;; its individual meaning
			)

		(card
			ID			2
			name			"The High Priestess"
			...etc
)
```

card-object
int ID   {1..78} String name   {...} String suit   {Wands, Cups, Swords, Pentacles} int num   {1..14}   (or {1..10} and {P,N,Q,K} ??) boolean major boolean reversed boolean specialCases int describeCases   {...} String describeCard   {strong, weak, positive, negative, spiritual, worldly}
??

```
(deffacts    single-meaning-facts
             ;; perhaps this is part of the basic card info??

(deffacts    multiple-meaning-facts
             ;; which cards are involved
             ;; what factors are needed for this interpretation

(deffacts    spread-facts
             ;; title for spread
             ;; number of cards
             ;; position of cards??
             ;; title for position?
             ;; meaning of position        -> maybe seperate deffacts for position??
```

```
(defrule     shuffle
             ;; ask user to shuffle
             ;; each s = one shuffle
             ;; generate random no. sequence from 1-78

(defrule     deal
             ;; take first num from random sequence
             ;; match that num to a card ID
             ;; place that card in first position
             ;; create/add to interpretation-set, i.e. collect the card ID's for
             interepretation
             ;; increment position-place
             ;; do until no more position places

(defrule     interpret
             ;; match card ID's from interpretation-set to multiple-meaning facts
             ;; match card ID's from interpretation-set to single-meaning facts ??
             ;; match card ID's from interpretation-set to position-facts ??
             ;; collect relevant info

(defrule     display-reading
             ;; display relevant info
```

Appendix H – Design document 2

1.
user => start program
    create new layout
    start new reading

1.1.
user => create new layout
    print "Sorry, this option is not available at this time." in pop-up window
    OK button to return to selection menu

user => start new reading:
    select layout
    deal cards
    interpret reading
        check if any multiple meanings are in the displayed cards
        if there are, display relevant multiple meanings
    reading is done

1.1.1.
user => select layout
    display menu of selection to choose from
        Celtic Cross (default)

        has selected layout
            clear / new window
            display relevant layout positions with titles
            offer user to shuffle cards (while concentrating on qstn)

user => deal
    display first card from "top of deck" (first num.in set) in first position
    display basic meaning of that card
    remove displayed text before next card is dealt
    do until all positions have been filled

user => reading is done
    offer to start over or quit
        if start over
            clear / close all windows
            go back to top (start new reading)
        if quit
            display thank you, and close all windows

1.1.1.1.
user => shuffle
    yes, shuffle cards
        generate random order of the deck (no.1-78)
        repeat as often as the user wants
    no, don't shuffle cards
        offer the user to cut the deck????????? ☺☺☺

Extra bit?

Choose significator card = "the problem":
(this is in fact "concentrating on the question")

Sverð	Bikarar	Stafir	Mynt
andlegt uppnám	ástarmál	friður	fjármál
barátta	gleði	andlegt öryggi	gróði
deilur	barneignir	veraldlegt öryggi	(óvæntur hagnaður)
ófriður	heimili	listrænir hæfileikar	arfur
missir	velgengni	gáfur	happdrættisvinningur
áhyggjur	vinátta	staða og stétt	allt sem er veraldlegt en forgengilegt?!?!
prófraun	mannleg samskipti	viðskipti	
samkeppni		nýir möguleikar	
einmanaleiki		löng ferðalög	
		sigur	
		framför	

Minor Arcana – tákn þeirra og merking:

Sverð eru táknræn um andlegt uppnám, baráttu, deilur, ófrið, missir og áhyggjur, prófraun, samkeppni og einmanaleika.

Bikarar tákna ástarmál, gleði, barneignir, heimili, velgengi, vináttu og mannleg samskipti.

Stafir eru tengdir varanlegum hlutum, s.s. friði, andlegu jafnt sem veraldlegu öryggi, listrænum hæfileikum, gáfum, stöðu og stétt, viðskiptum, nýjum möguleikum, löngum ferðalögum, sigri og framför.

Mynt tákna fjármál, gróða, óvæntan hagnað (t.d. arf eða happdrættisvinning) og allt sem er veraldlegt en forgengilegt.

Cups are assumed to represent people with light brown hair and of fair complexion.

Wands represent those having yellow or red hair and blue eyes.

Swords correspond to persons with dark brown heir and possibly gray, hazel or even blue eyes.

Pentacles answer to very dark people.

(You can also go by the temperament of a person instead of appearance)

Appendix I – Design document 3

Legend:
(bold = list of actions to accomplish heading)
(italics = action implies further actions)
(font size = hierarchy of actions)
(normal text = end of action)
(red = all "lower" actions have not yet been written up)

- **start program:**
- choose from two options: (with radio-button?)
- *create new layout*
- *start new reading*
- button ("Continue")
    - clear / new window
- button ("Quit")
    - display thank you
    - close all windows

- **create new layout:**
- print "This option is not implemented in the current version." in pop-up window
- OK button to return to selection menu

- **start new reading:**
-
- *1. select layout*
- *2. shuffle deck (think on qstn)*
- *3. deal cards*
- *4. interpret reading*
- *5. reading is done*

- **select layout:**
- *display menu of selection to choose from*
  - list ("Celtic Cross" as default)
  - buttons ("Continue" + "Quit")
  - *selected layout:*
    - clear / create new window
    - *display relevant layout positions with titles*
      - empty text-areas, ca. card-sized, title displayed above/below (easier)

- **shuffle:**
- *yes, shuffle cards*
  - generate random order of the deck (no.1-78)
  - repeat as often as the user wants
  - display number of times shuffled
- *no, don't shuffle cards*
  - proceed to reading (i.e. deal)
- *offer the user to cut the deck*
  - slider from 1-78
  - slider no. indicates position of card in the random-set that will be the new top of stack

- **deal:**
- *display first card from "top of deck" (first num.in the random set) in first position of layout*
  -
- display basic meaning of that card
- remove displayed text before next card is dealt
- do until all positions have been filled

- **interpret reading**
- *check if any multiple meanings are in the displayed cards*
  - rules are instantiated or not
- *if there are, display relevant multiple meanings*
  - *how to order this display??*
    - *(salience???? = bad)*

- **reading is done**
- *offer to start over or quit:*
  - if start over:
    - clear / close all windows
    - go back to top (start new reading)
  - if quit:
    - display thank you
    - close all windows

TESTING!!!!!!!!!!!!!!!!

have to be able to put certain cards in specific places in order to compare to other programs

- input window for card no. ??????? (only in administrator testing version)
- or radio/check buttons ???? :
  - major/minor ?
  - major no. (input)
  - suit (radio /list)
  - minor no. (input)
- deal that card ("submit") to next position
- (have incrementing counter for position)

Appendix J – Design document 4

Legend:
(bold = list of actions to accomplish heading)
(italics = action implies further actions)
(font size = hierarchy of actions)
(normal text = end of action)
(red = all "lower" actions have not yet been written up)

- **start program:**
- choose from two options: (with radio-button?)
- *create new layout*
- *start new reading*
- button ("Continue")
  - clear / new window
- button ("Quit")
  - display thank you
  - close all windows

- **create new layout:**
- print "This option is not implemented in the current version." in pop-up window
- OK button to return to selection menu

- **start new reading:**
- *1. select layout*
- *1A. select Significator ?*
- *2. shuffle deck (& think on qstn, if signif. is not implemented)*
  - *make shuffle/cut options unavailable before dealing*
- *3. deal cards*
- *4. interpret reading*
- *5. reading is done*

- **select layout:**
- *display menu of selection to choose from*
    - list ("Celtic Cross" as default)
    - buttons ("Continue" + "Quit")
    - *selected layout:*
        - clear / create new window
        - *display relevant layout positions with titles*
            - empty text-areas, ca. card-sized, title displayed above/below (easier)
            - indicate whether reversed or not

- **select Significator:**
- *create "groups of problems"?*
    - have for minor – what about major? (not used as significator?!?!)
- radio buttons to select type of problem / question

- **shuffle:**
- *yes, shuffle cards*
    - generate random order of the deck (no.1-78)
    - repeat as often as the user wants
    - display number of times shuffled
- *no, don't shuffle cards*
    - proceed to reading (i.e. deal)
- *offer the user to cut the deck*
    - slider from 1-78
    - slider no. indicates position of card in the random-set that will be the new top of stack

- **deal:**
- *display first card from "top of deck" (first num.in the random set) in first position of layout*
    -
- display basic meaning of that card
- remove displayed text before next card is dealt
- do until all positions have been filled

- **interpret reading**
- *check if any multiple meanings are in the displayed cards*
    - rules are instantiated or not
- *if there are, display relevant multiple meanings*
    - *how to order this display??*
        - *(salience???? = bad)*

- **reading is done**
- *offer to start over or quit:*
  - if start over:
    - clear / close all windows
    - go back to top (start new reading)
  - if quit:
    - display thank you
    - close all windows

TESTING!!!!!!!!!!!!!!!

have to be able to put certain cards in specific places in order to compare to other programs

input window for card no. ??????? (only in testing version)
or radio/check buttons ???? :
major/minor ?
major no. (input)
suit (radio /list)
minor no. (input)
deal that card ("submit") to next position
(have incrementing counter for position)

Significator:

Sverð	Bikarar	Stafir	Mynt
andlegt uppnám	ástarmál	friður	fjármál
barátta	gleði	andlegt öryggi	gróði
deilur	barneignir	veraldlegt öryggi	(óvæntur hagnaður)
ófriður	heimili	listrænir hæfileikar	arfur
missir	velgengni	gáfur	happdrættisvinningur
áhyggjur	vinátta	staða og stétt	allt sem er veraldlegt en forgengilegt?!?!
prófraun	mannleg samskipti	viðskipti	
samkeppni		nýir möguleikar	
einmanaleiki		löng ferðalög	
		sigur	
		framför	

What about major arcana?
(www.façade.com uses only The Magician and The High Priestess in addition to the four royals of each suit)

Appendix K – Paper prototypes

Appendix L – Design document 5

Appendix M – Design document 6

Appendix N – Experimenting with CLIPS to browser

```
;; Martha Dís Brandt
;; 11.03.2006
;;
;; testing CLIPS output as XML = done
;; now, trying to get the program to Reset and Run automatically
;;
;; remember to deselect Watch on "everything"


(defrule begin-program
        ?init <- (initial-fact)
        =>
        (retract ?init)
        (dribble-on "testing_XML_4.htm")
        ;;(reset)
        ;;(run)                                    ;; this did not work
        (assert (layout type celtic-cross) ) )


(defrule begin-reading
        (layout type ?any-type)
        =>
        (printout t "<html><body><p>The selected layout type is Celtic Cross</p></body></html>" crlf)
        (assert (end-fact) ) )

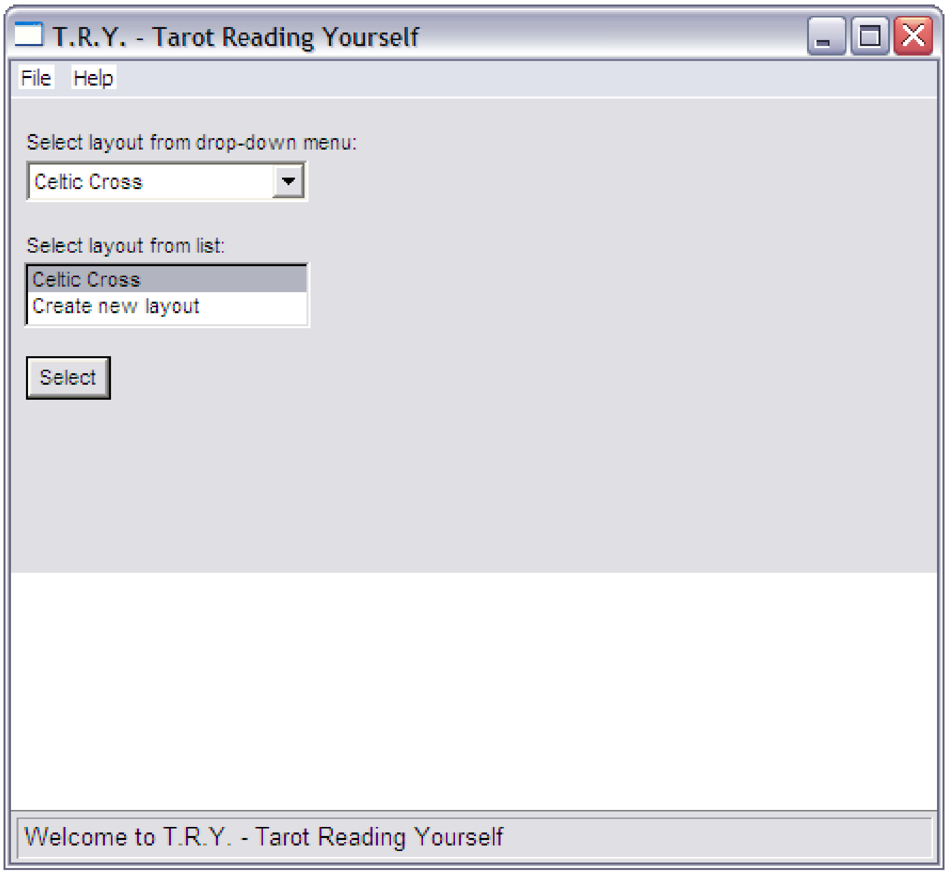


(defrule end-program
        ?end <- (end-fact)
        =>
        (retract ?end)
        (dribble-off)
        (assert (output xml-4) ) )
```

And the document "testing_XML_4.htm" contains:

"<html><body><p>The selected layout type is Celtic Cross</p></body></html>"

Appendix O – After brief experimenting with wxCLIPS



Appendix P – LOG

----
log-date: 18.03.2006-16:07

- Read through all of w3schools.com stuff on HTML,skimmed through XHTML and CSS also.

- went over design documentation again:
  set it up in a hierarcical form according based on whether an action included another action
  discovered that not all was written down as I'd previously thought
  realized that I had not written down necessary options to be included in the program in order to test it

- took time to contemplate and add in missing factors to the design

- interface prototyping on paper (5 pages)

----
log-date: 19.03.2006-12:34

- relatively happy with paper prototype now, so looked at design again

- did not complete all missing factors yesterday, some more polishing here

----
log-date: 21.03.2006-20:14

- tentative programming: deffacts and defrule for combination rules

- design is complete (I think) except for Significator option, but
  since that is an "extra bit" I will not spend more time on that now.

----
log-date: 22.03.2006-xx:xx..22:46

- have identified which button is being pressed and linked an action (window-close and message-box) to it

----
log-date: 23.03.2006-10:56

- working on instantiating another window when button pressed

ca. 22:35

- got a new window with button press, but only works the first time it is pressed
- changed tactics:
  instead of instantiating subframes that are invisible at start
  use deffunctions that instantiate appropriate frame with appropriate button?
  (not working so far... but problem is not related to subframes I think, but those darn brackets)

----
log-date: 24.03.2006- (on and off all day)

- found the missing bracket from yesterday

- now have sequence of frames appearing, need to put appropriate items on each frame

- managed to get rid of text area, messed somthing up because now wxCLIPS crashes if I use the close button in top right corner or the Quit button (problem with "on-close"?)

----
log-date: 25.03.2006-10:41-18:24

- have completed Step 1 (first frame)

- have appearance of Step 2 complete, next is its functionality

25.03.2006-10:41-22:13

- hardly got anything done

----
log-date: 26.03.2006-17:52

- discovered that the quit button had a side effect (fell through switch) and fixed it

- working on shuffle/cut frame

- have shuffle/cut frame, working on functionality

- sidebar: trying to center text (have function to get string length, but frame width ?w is stored as symbol???)

- having problems with random

----
log-date: 27.03.2006-13:52

- solved random problem = used mod 78

- got slider value

- need to create new deck after cut

- have completed all functionality for step 3 :)

27.03.2006-19:58-21:32

- trying to clean up app-on-init()

_ I don't know why this didn't work before, but now it was a piece of cake :)

- put in "busy cursor" and "error bell"

----
log-date: 30.03.2006-15:16

- commented out the annoying bell

- worked on frame four: trying to put the text-area down the right side

----
log-date: 30.03.2006-15:16

- working on posn's for layout

- have correct card positions

- need to put titles on them

- need functionality w/deal button

- need input field and submit button (for frame five)

----
log-date: 31.03.2006-10:39

- putting titles above card positions

version.47? doesn't work
version.50 doesn't work
version.51 doesn't work

- have titles

- trying to make text appear in the card positions - NOT WORKING!! :(
maybe wrong type of "window"?

----
log-date: 31.03.2006-18:55

(taking a break from step 4)

- working on getting the input in step 5
v.52 based on v.49

- went back to trying to get text to appear in card posn..... too stubborn to give up on it
just need to convert a multifield into a string
(I searched the BPG, the APG, the wxCLIPS pdf guides and even found an active CLIPS forum - to no avail)

- FINALLY!! at 23:53 found how to solve the problem (by accident!!!) and the answer was soooo
ridiculously OBVIOUS that I wanted to cry for wasting all that time => "implode$"

- correct num (top card of deck) is displayed in correct sequence of card positions... except
need to put some limitations on functionality, i.e. only up to 10 (f/Celtic), consider counter num when
switching between frames four and five (that won't be an option, so maybe don't need to handle?)

- need to use ?*next-card* to get name of card from card-fact.... need to write up all facts

- still need to get input in step 5

----
log-date: 01.04.2006-12:29

- looked over 4 books on tarot (from the library in Húsavík)

- have written up the card facts (except for their meaning)

- v.56 displays name of the top card of the deck in correct card position with the following "disability":
    after pressing the "Deal" button on T.R.Y. the "run" button on the wxCLIPS GUI has to be pressed

01.04.2006-20:19

- v.58:
    .... something interesting happening ....
    1. press "deal" = nothing happens
    2. press "run" = first name appears in first window
    3. press "deal" = nothing happens
    4. press "run" = second name appears in second window
    5. press "deal" = nothing happens
    6. press "run" = third name appears in third window
    7. press "deal" = nothing happens
    8. press "run" = fourth name appears in fourth window
here's where it becomes interesting:
    9. press "run" = fourth name appears in fifth window
    10. press "run" = fourth name appears in sixth window
    11. press "deal" = nothing happens
    12. press "run" = fifth name appears in 7th window
    13. press "run" = fifth name appears in 8th window
    14. press "run" = fifth name appears in 9th window
    15. press "run" = fifth name appears in 10th window

- seems that "nothing" wasn't actually "nothing" as I thought....
    initialized ?*display-card-name* as "..." instead of "" and discovered
    that "..." was being displayed in correct positions - oops

- versions 56+57 print the name of the card (using the "run" button)

- version 58: had to revert from ?*display-card-name* (only prints "...") back to ?*next-card* (i.e. the num)

----
log-date: 02.04.2006-12:33

- version 59 is based on v.57

- working on display basic card meaning at same time as card appears in position
  done

Brainstorming....... have an idea about why need to use "run" button:

  I have only been using "launch application" from wxCLIPS GUI
  but CLIPS knowledge base needs to be loaded, reset and then run before any rule-activations occur !!!!

  HAVE SOLVED THIS PROBLEM AT 15:31 !!!! (inserted "(run 1)" into deffunction)

- working on stopping criteria when all posn's are filled
  done

- working on "what comes next" after all posn's are filled
  done

- steps 4 and 5 are complete except for one thing:
  defrule "next-card-to-display" does not match as I want it to
  and matches to all cards and displays the first rule activation

- modified program so that button actions call functions to create frames (version 64)
  instead of creating all frames at start-up
  may also need to consider closing frames instead of making invisible as before .....

- fixed minor bugs:
  + fixed display text area so that user cannot modify text
  + fixed display text area so that always displays descriptions at end (instead of at cursor position)
  + fixed radio-button selection so that do not have to click again on top button,
    since program thought no selection had been made but showed default first button selected.
  + "fixed" list selection so that no default is selected..... and must click on sth
    i.e. initialized frame instead of visible/invisible

- and more that I forgot to write down

----
log-date: 03.04.2006-12:27

- discovered that "-" cannot be used in variable names that are used inside of other functions, e.g. (eq ...)

- mind-wrestling the "comparing-two-strings" problem
  (eq ...) doesn't work
  (str-compare ...) doesn't work
  obviously when using implode$ to create a string from a multifield, some
  unidentifiable character is introduced/removed that causes two visually
  identical strings to be incompatible

- walls, walls, walls everywhere I turn .... arrrg .... :(
  have posted a request for help on the CLIPS forum that I finally found... (http://www.cpbinc.com/clips/)
  got a reply, didn't help much and have posted another more detailed
  description of the problem, waiting for reply

- typing up descriptions mostly

----
log-date: 04.04.2006-????

- forgot to add entries here today....
  solved the "comparing-tow-strings" problem finally... the answer on the forum helped!
  needed to fix some minor bugs concerning which display-posn the name appeared in
  after solving "strings" problem, needed to modify testing frame to do the same
  contemplated how to handle reverse
  wrote up some of the combination facts (not all until I can see whether functionality works)
  worked on two defrules for finding combinations and comb-text
  decided should probably have used deftemplates..... thinking about rewriting facts in deftemplates....
  nope... I do not feel comfortable changing to deftemplate right now... there are default values that
  can be set.... don't understand them too well at this point.... look like a good idea though

----
log-date: 05.04.2006-10:15

- tried to change the font size in some places, but discovered that is not possible
  had a global ?*small_font* and thought it was dictating fontsize in most places
  but after creating different globals containing font-info and saw they had no effect,
  I deleted the ?*small_font* and that also had no effect....

  The wxCLIPS manual says that message-create (i.e. writing text to the panel) has
  a parameter "style", but it is reserved for future use => assume this is what I would've needed

  and text-window-create also has a parameter "style", but it is used for drawing a border or
  to allow editing - I found no other indications of being able to manipulate the font being shown.

- fixed the menu-bar

- deleted frame "Step 6" (extra)

- fixed test session so that card one doesn't display over and over again in posn-one until counter hits 10

- fixed test session so that you can only enter input once

- weird bug in test session... doesn't display comb-text (same structure as "deal", so should work???)

... afternoon at unak....

- felt like a whole lotta stuff... forgot to write it down

+++
FINAL TODO'S:

TODO DONE:
- taylor menu-bar to my application
- translate and write up card descriptions
- how to deal with reversed cards:
    retract and assert cards (then the card stays rev.or not as it was when it was last used - until new reading?)
    create a set of numbers which represent the cards that are reversed?
    use a random switch everytime a card is dealt? (how to "remember" that for combinations?)
- write up text for reversed card descriptions
- add "T/F" reversed field to card-facts
- (remove suit? num? major?) => no, decided to keep because can be used in future versions
- delete frame "step 6" (unnecessary)

TODO CAN'T BE DONE:
- change font size of welcome text on frame 1 (wxCLIPS does not allow me to change this)
- change font size in card posn's on frame 4+5 (wxCLIPS does not allow me to change this)
- change font size display text area on frame 4+5 (wxCLIPS does not allow me to change this)

TODO LEFTOVERS:
- translate and write up rule-combinations
- check/fix what happens to panels when resizing
    (see: window-set-size-hints on wxclips.pdf page 179)
- NB .... mustn't press the deal button "too quickly"..... need to find something
    that prevents pressing the deal button too soon
    so that the set of actions finishes before next set of actions begin
- fix input area size on test session ("invisible" parts of input)

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Appendix Q – User manual

User Manual for T.R.Y. – Tarot Reading Yourself

Introduction

The program T.R.Y. – Tarot Reading Yourself is a simple tool for the user to experience a tarot reading without the intervention of another person. It can also be used as a training tool for beginner readers.

Overview

This user manual provides installation instructions and a brief description of the program and how to use the system.

Installation

To install T.R.Y. – Tarot Reading Yourself, first create a folder named TRY at the top level of your hard drive, usually C:\, then copy the TRY.clp file to that folder. You will also need to install the wxCLIPS program which can be downloaded from here: http://www.anthemion.co.uk/wxclips/

Description

The program requires the user to shuffle the deck and provides options to cut and/or rotate the deck before it proceeds to present the user with the Celtic Cross layout , where the user can deal one card at a time to the relevant positions and view the descriptions for each card as they appear.

How to get started

Open the TRY folder on your hard drive, then open the TRY.clp file by either double-clicking on the icon or right-clicking and selection the Open option. Please be patient while the program starts up as it is rather slow (the busy cursor disappears but you must wait just a little longer, on my machine it takes a few long seconds to start).

T.R.Y. – Tarot Reading Yourself has three options to choose from on the main screen:

1. Begin reading process
2. Create new layout
3. Test session

This section looks at each option in turn.

1. Begin reading process

On the first frame, the user can continue to a reading by pressing the Continue button or quit the program by pressing the Quit button.

The File option on the menu bar also allows the user to quit the program, and the Help option provides information about the program.

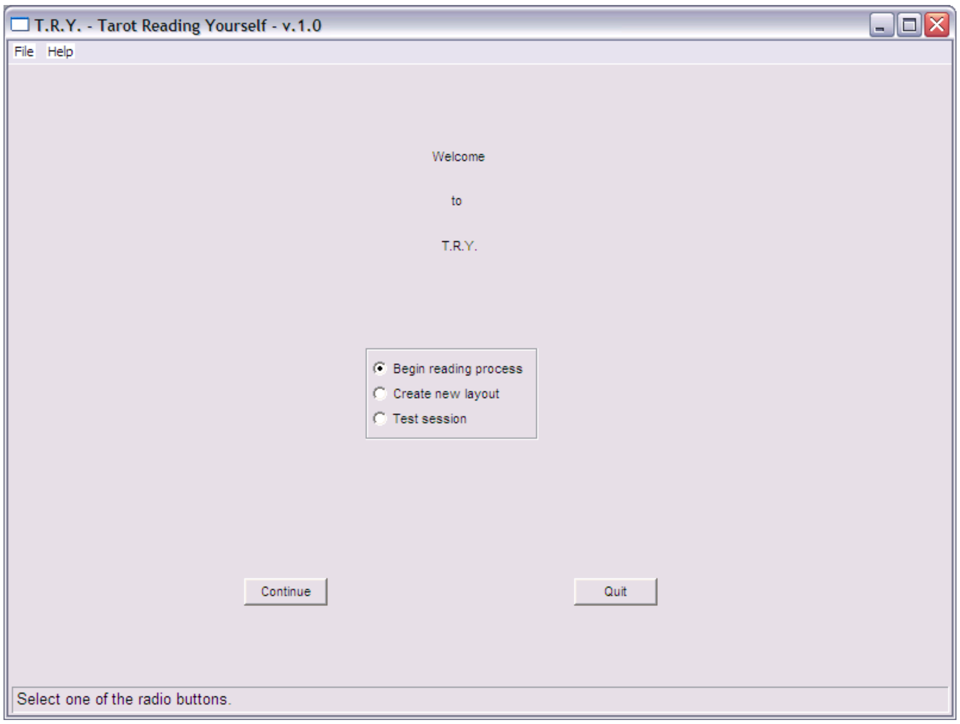


Figure 7: Main window

Once the user has selected the Begin new reading process the next frame will provide layout options to select from:

1.1 Celtic Cross

1.2 Create new layout

1.3 …

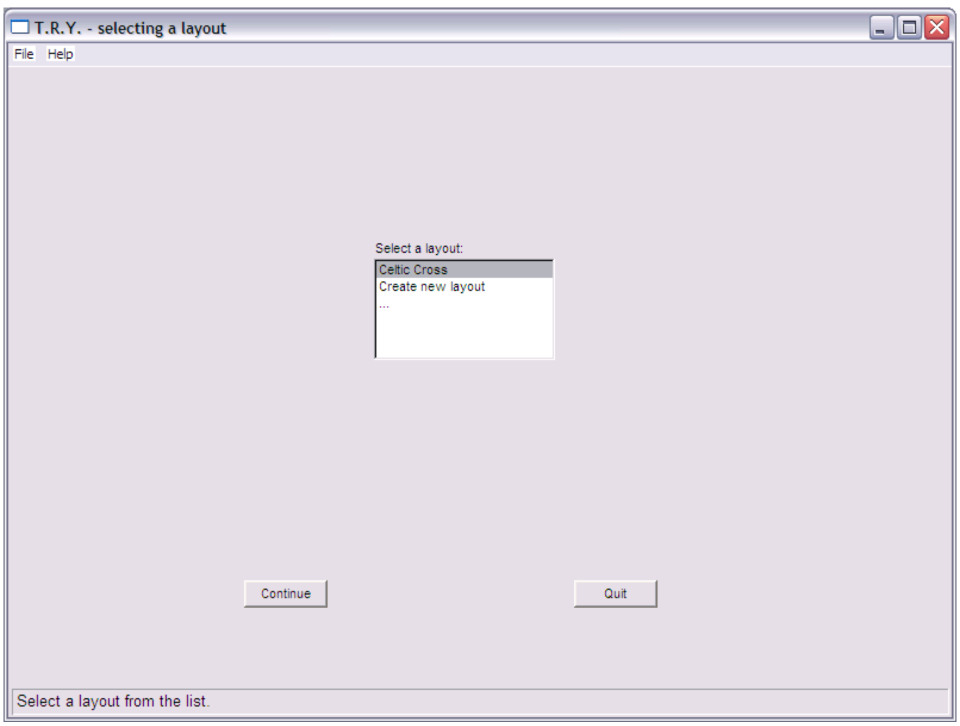


Figure 8: When beginning a reading, the user must first select a layout

The options "Create new layout" and "…" are not implemented in this version and so the following error messages will appear if they are selected:

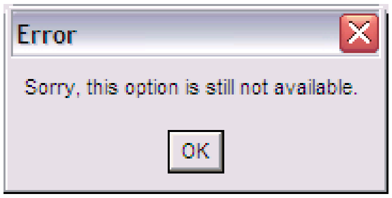


Figure 9: Error message when "Create new layout" is selected

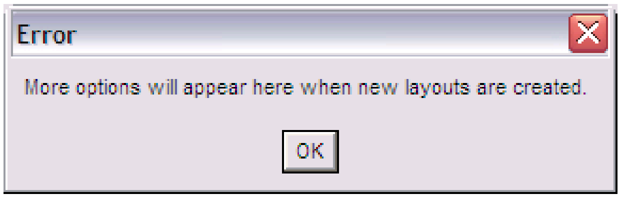


Figure 10: Error message when "..." is selected

After the Celtic Cross layout has been selected, the user must continue to this window where the deck of cards is prepared before they can be layed out.

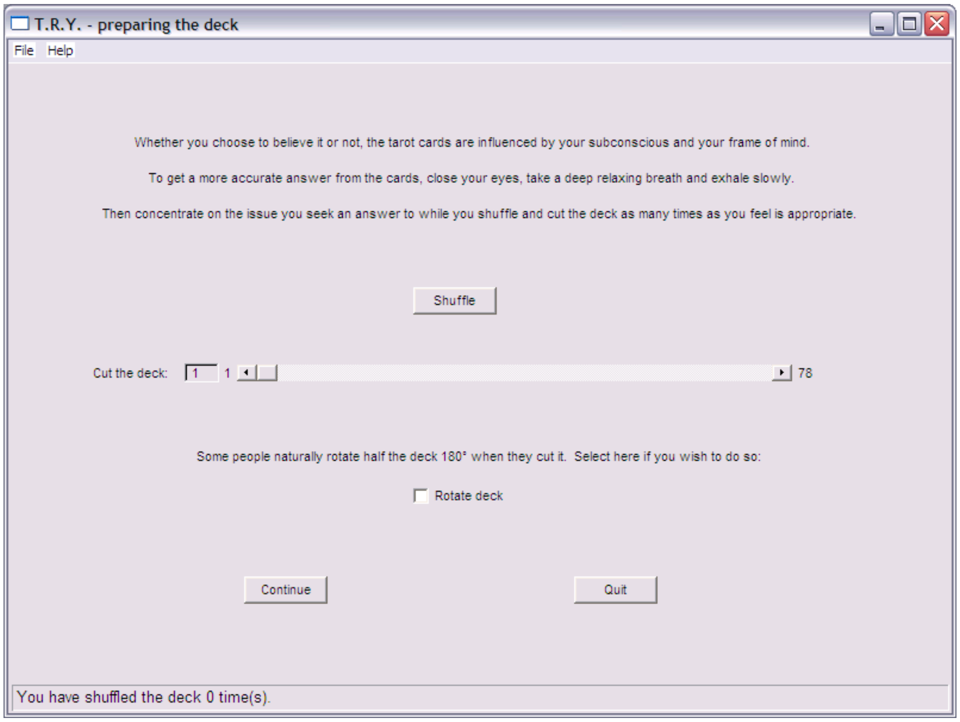


Figure 11: Before the deck has been prepared

The user must press the Shuffle button at least once and then may repeat that as many times as they like. "Cut the deck" and "rotate the deck" are optional, where cutting splits the deck into two stacks and places the bottom stack on the top, and rotating the deck changes the direction of all the cards in the upper half of the deck (where the cut is specified), i.e. reversed cards become right-side up and vice versa.

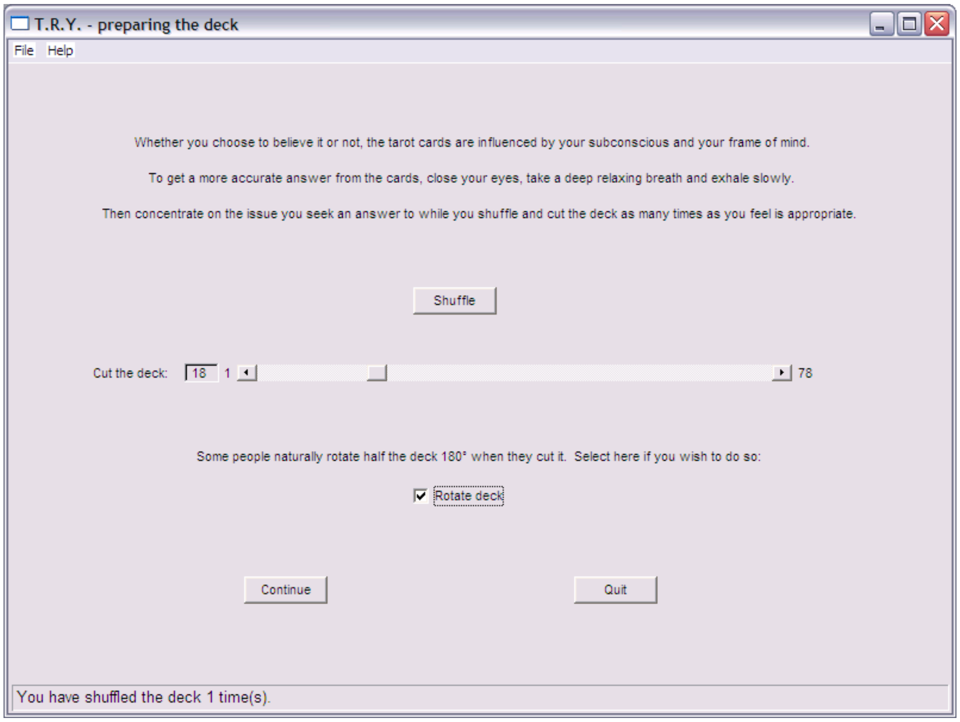


Figure 12: After the deck has been prepared

Next the user will see the empty Celtic Cross layout:

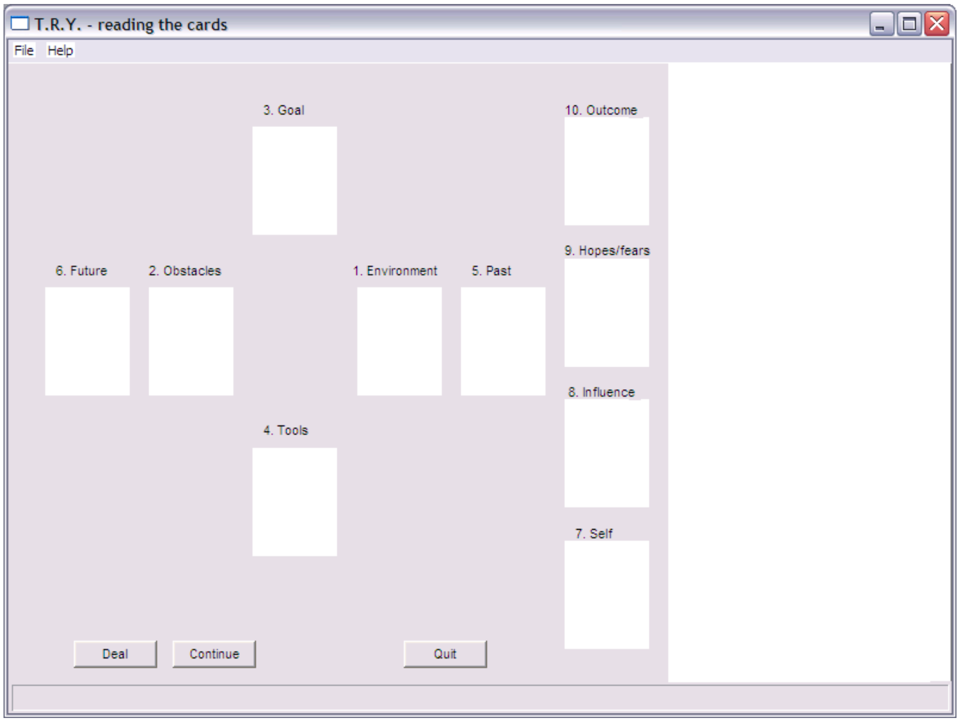


Figure 13: The empty Celtic Cross layout

and each time the user presses the Deal button, the title of the card (and whether it is reversed) will appear in the relevant position of the layout.

Furthermore, the basic description of the card will be displayed in the text area on the right:

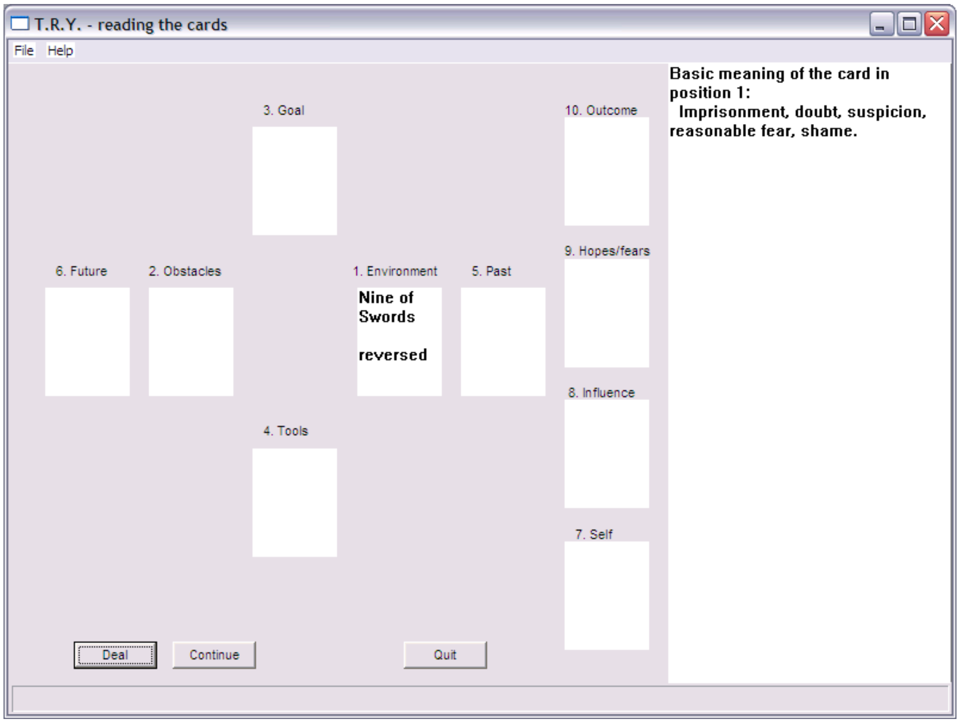


Figure 14: The Celtic Cross after one card has been dealt

The user must continue to press the deal button until all positions in the layout are filled, otherwise if an attempt is made to continue before then, this error message will be displayed:

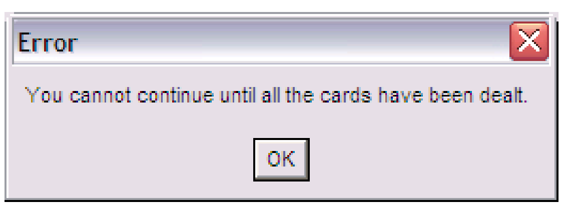


Figure 15: Error message if user tries to continue before layout has been filled

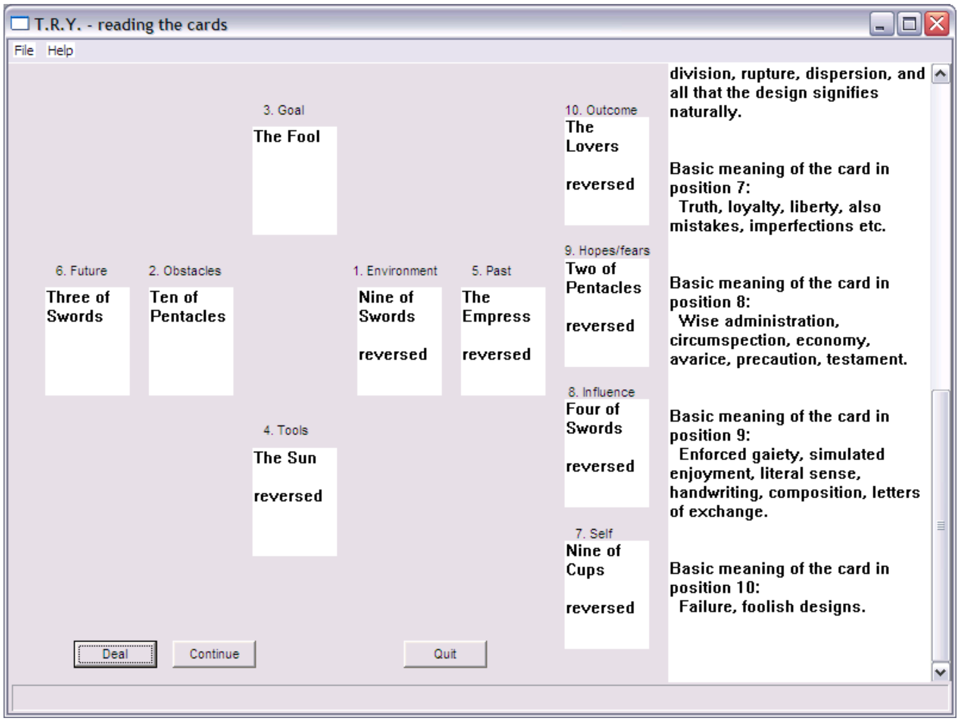


Figure 16: The Celtic Cross with all positions filled

If the user attempts to deal another card after all positions have been fille, the program will display this error message:



Figure 17: Error message if attempt is made to deal again after the layout has been filled

The program is able to display combination meanings of the cards in the layout, however, the information has not yet been entered into it:

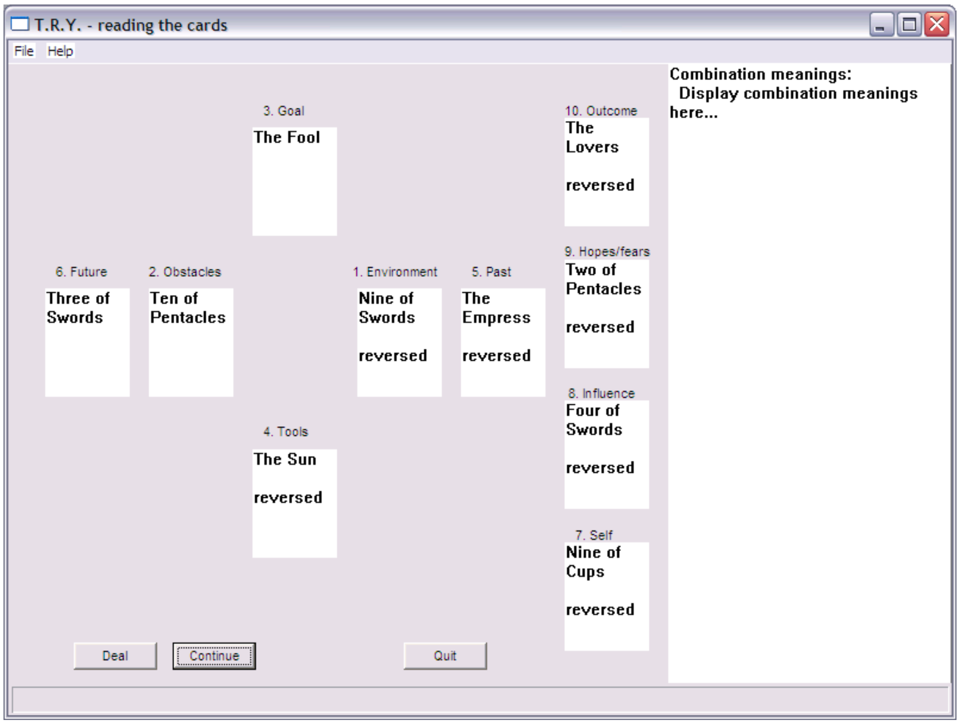


Figure 18: The program displaying combination meanings (if they had been available)

At this point, as well as any time throughout execution of the program, the user may quit the program. If the user wishes to start over, then selecting the continue button will reset the program:

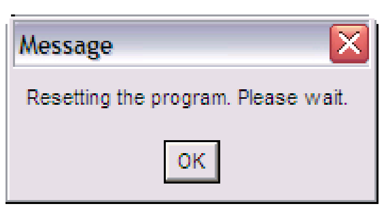


Figure 19: Alerting the user to the program resetting

and return to the main window.

2. Create new layout

If the option Create new layout is selected on the main window:

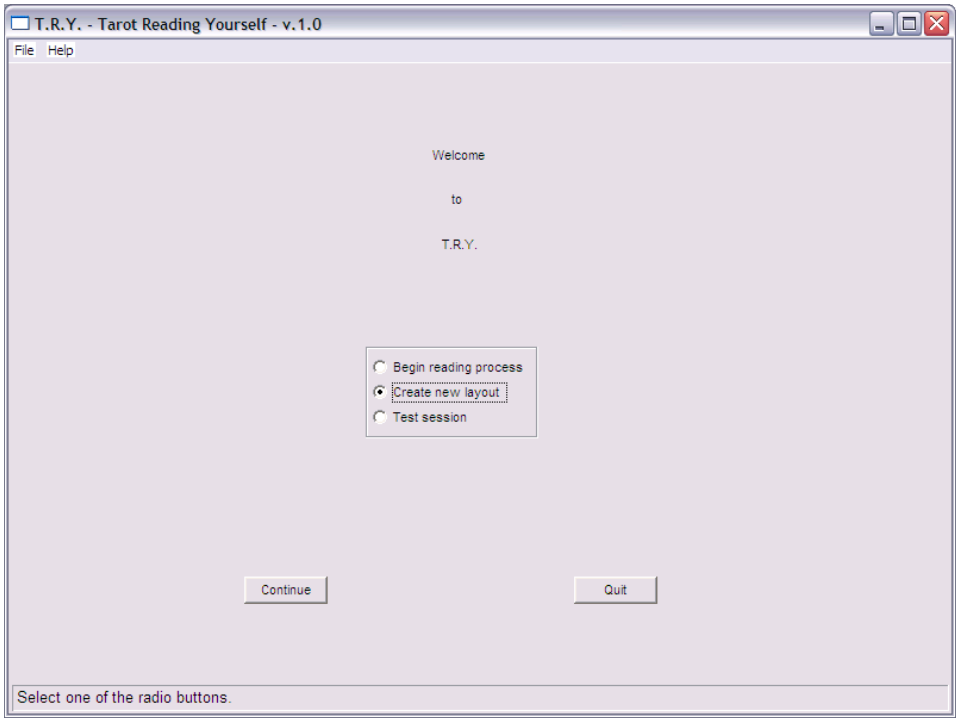


Figure 20: The user selects the option to create a new layout

then this message will appear:

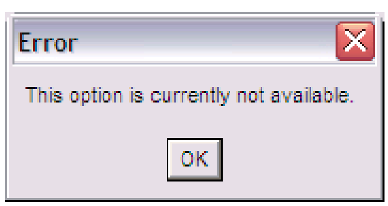


Figure 21: Create new layout is not available in this version

3. Test session

If the user selects the test session on the main window, an almost identical window will appear as if beginning a reading. The Celtic Cross layout is pre-selected and instead of the deal button there is a submit button and an area to enter the card number manually:

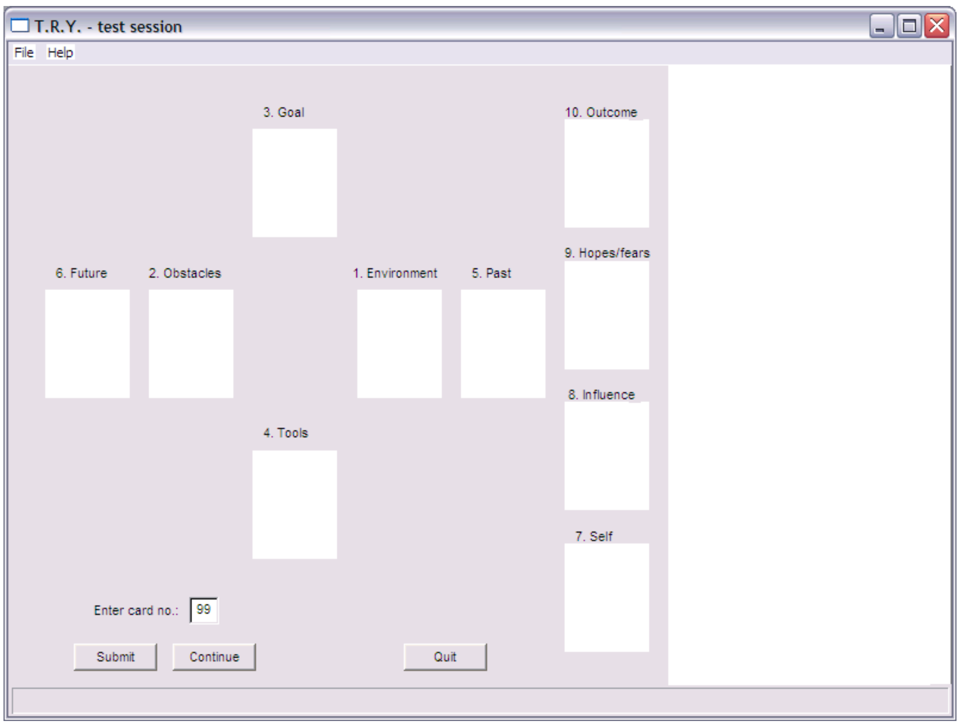


Figure 22: The test session window

This window is for comparing T.R.Y. to other tarot reading programs, but since T.R.Y. only displays basic meanings in the current version, this window does not really fulfill its purpose.

The program will display an error message if anything other than a number between 1 and 78 is entered:

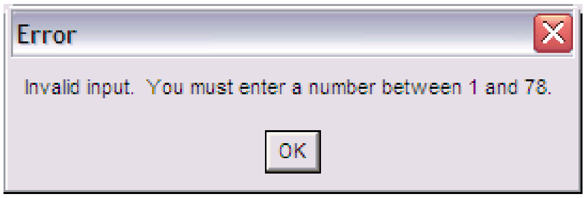


Figure 23: Error message if input is not valid

and if the user attempts to enter the same number again:

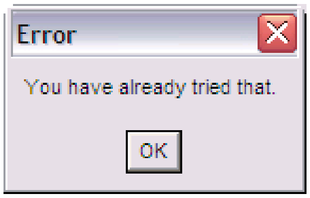


Figure 24: Error message if user tries to enter same number

When the user quits the program, either by pressing the Quit button or selecting quit from the File menu bar option, the program displays this message:

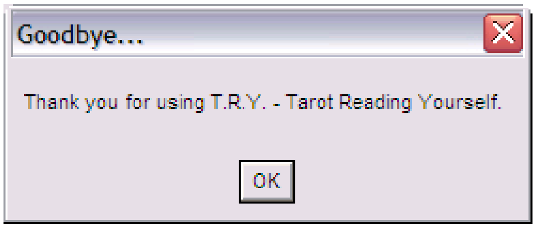


Figure 25: Thank you and goodbye

Help

If any problems should occur, do not hesitate to contact the program's author via e-mail at ha030454@unak.is (or marthadis@hotmail.com).